Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

Highlights

The Innova 5.9.2 Release Notes include new functionality, improvements to existing functionality, and upcoming enhancements.

Highlights in this release include:

Enhanced control of Products on Packing Stations
QC inspection available on UltimateStation
Document system has been expanded and improved
Improved Reason grouping for OEE
OEE support added for M3000 G200 Speedbatcher

A number of exciting improvements have been made to FleXicut:
Walking stick shown for FleXicut
Minimum V-Cut ratio field in the V-Cut offset parameter setup for FleXicut
Allow negative tilting of both cutters in FleXicut
Support two new fish types in FleXicut
New FleXicut Portioning detail report
Weight distribution report for output portion piece type for FleXicut

Improvements to various SensorX reports, including the Visual Production report, Station events report, and many of the Bones Throughput reports.

Additional functionality has been added in Order control.

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Improvements and newly released functionality

Base

SQL Server version updated in installation

The Microsoft SQL Server installed by default as part of the Innova installation has been upgraded to the latest version. The current version is now Microsoft SQL Server 2019.

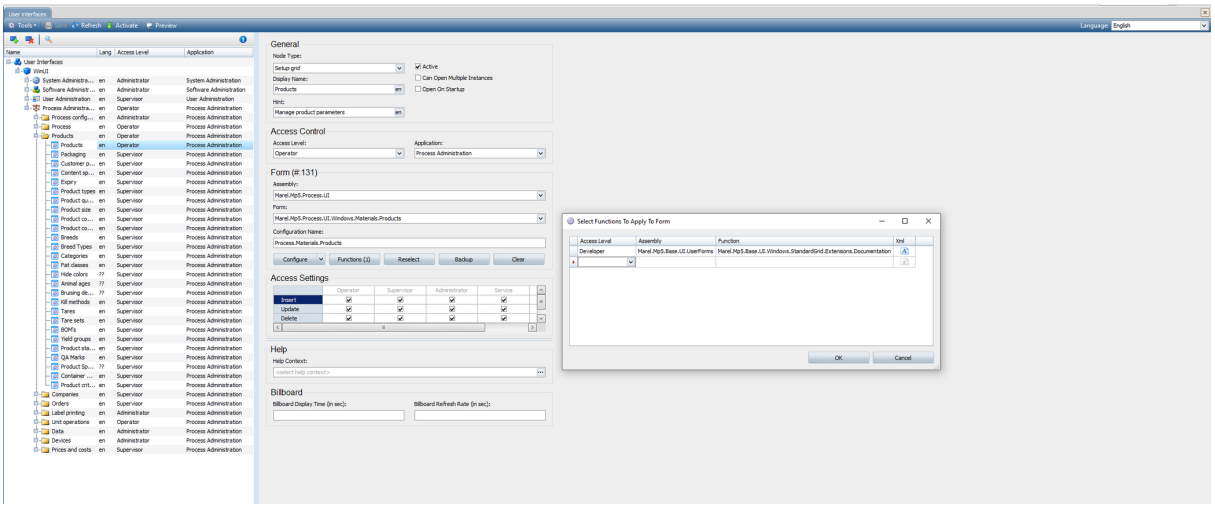
Document system expanded and improved

The document system in Innova has been expanded with two new features in version 5.9.2:

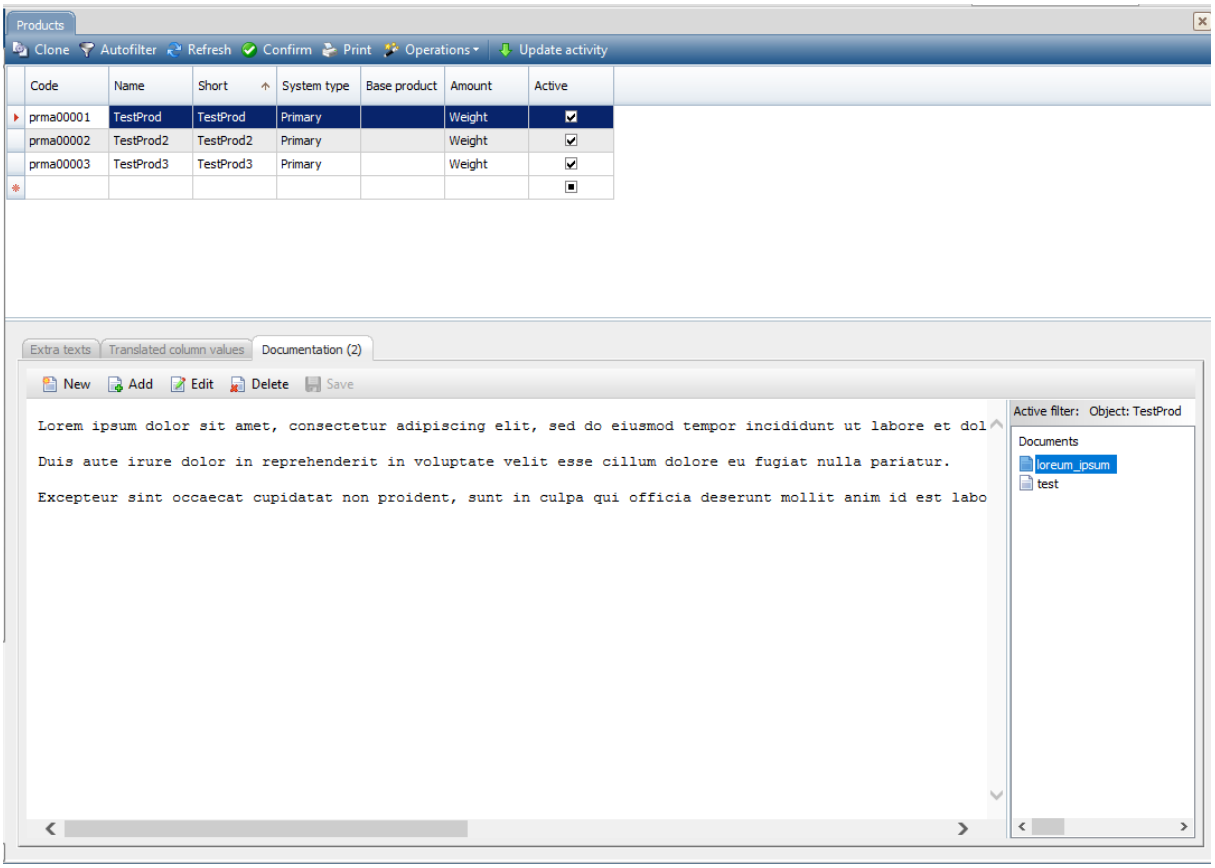
- Documentation view extension for object forms
- Documentation tab in Unit Operation Editor
- DocumentSystemConfig - New global XML configuration

The Documentation view extension

The Documentation view extension, Marel.Mp5.Base.UI.Windows.StandardGrid.Extensions.Documentation, can be added manually via the Menu Editor's Functions tab.



This view extension includes a tab in the form's details view, and offers the capability of viewing, adding, editing and deleting (based on access levels) documents linked to object records in the main form.

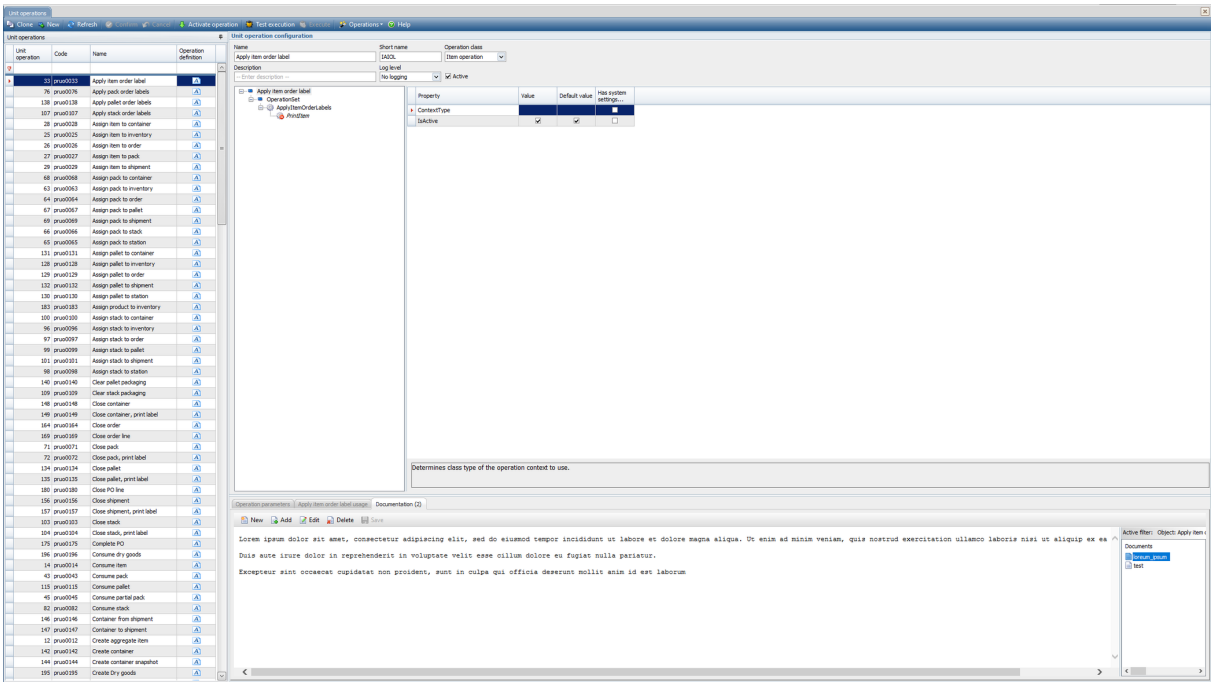


The access level for the documentation tab's toolbar buttons is configured on the function's XML. By default the access level for the buttons is set to Supervisor.

The XML configuration is not automatically populated in the function view and must be added manually to be able to change the access levels.

Documentation tab in Unit operations editor

The Documentation tab is now included automatically in the Unit Operation editor. Using the documentation tab, users can now view, add, edit or delete (based on access level) documentation linked to the selected unit operation.



Set Maximum file size

The DocumentSystemConfig is a new XML configuration stored in XML data store. Currently, it only stores the MaxFileSize property, which allows the user to define the maximum file size for uploaded documents. This works globally for the document system; i.e. the afore-mentioned add-ons (Document view extension and documentation tab in Unit operation editor), as well as the pre-existing document system in Innova.

When users try to add/upload documents exceeding the maximum file size limit an error appears with information text.

Dashboard query components support ReportingSystem and ReadUncommitted

Dashboard Query Components now support custom reporting system and read uncommited code.

Affected dashboard components are:

- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Charts.QueryChart
- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Queries.Linked.LinkedQueryTable

- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Queries.QueryLabel
- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Queries.QueryRequest

The following configuration properties were added for all components:

- ReportSystem: The ID of the system that should be used to get data for this dashboard component
- ReadUncommitted: Run queries in isolation mode read uncommitted.

The configuration properties have also been added to the Report Page in the PDA configuration.

Minor bug fixes in Database maintenance

The Clean table checkbox was not working correctly. This has been fixed in versions 5.9.0, 5.9.1, and 5.9.2.

A bug was also fixed in the database maintenance where using criteria for a table would cause the database maintenance to fail.

Minor improvements to installation

The copyright date that appears on the Innova splash screen at startup has been updated and the line about the copyright year that appeared in Distribute.exe has been removed.

The Microsoft.SqlServer.SMO package has also been updated to the latest version.

Translation fixes

In base_sysprograms the Spanish translation for Process manager was changed from "Gestor de programas" to "Gestor de proceso." The Spanish translation for Short Process manager was also changed from "Gest. prog." to "Gest. proc."

A fix was made where the column name could not be indexed from the DevExpress "no null allowed" exception message because of culture settings. This was added to versions 5.9.1 and higher. Some culture settings, e.g. Netherlands, do not provide the column name within quotation marks (""). In that case, the column name cannot be indexed. In such cases the default DevExpress exception message will be shown.

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Empty cells appear in some forms

An issue was fixed where some cells in a form appeared empty when viewing a large number of rows.

Report designer behaves in unexpected way when adding reports with sub-reports

When adding sub-reports to reports in Report Designer, the form for selecting DataSource and Relations did not automatically appear. This was caused by changes in DevExpress and has been fixed.

MultiSelectLookupViewExtension not working in detail forms

The MultiSelectLookupViewExtension was not working in the detail forms (sub-grids). This has been fixed.

WsServer page not loading

URL generation in wsserver is fixed so that it supports tokens that can confuse browsers.

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Checkweighing

Rounding of T1 and T2 was sometimes wrong

When creating an E-weighing program where the nominal weight is 120g on an M-Check2 that has lowest weight resolution of 0.5g, then Innova rounded T1 wrong. The result was T1 = 114.5g which is illegal; the correct value should be 115g. The problem was that the built-in TNE calculator claimed that T1 is 114.5999...g for 120g, where it should be 114.6g. The incorrect rounding of T1 was caused by casting to int before rounding.

Problems creating accurate tare

It was not possible to create an accurate Tare on an M-Check2 that is configured in metric units if Innova is configured in imperial units.

When showing weights in ounces (oz) there should be 3 decimals; tare has only one. There should also be 3 decimals when the per program weighing system is in Cental (lbs). For grams, the number of decimals should remain 1.

M-Check2 has an override (column weighing system) that controls whether the program should use metric or cental units no matter what the weighing system is set to. This works as expected when the global weighing system is SI, but when it was set to imperial units and the per program weighing system was set to metric units, the weight in the program stayed in ounces (oz) instead of changing to metric units (grams) as expected. This has now been fixed.

The issue where the input field for Tare was not working correctly in the M-Check2 program editor when using an Innova system with imperial units and editing an M-Check2 program using grams has now been fixed.

Related to this, it was noted that when changing a checkweighing program cental to metric units, incorrect weights were created. This was due to a bug in the Checkweighing program editor where changing WeighingSystem for M-Check2 programs from cental to metric used incorrect conversion calculations for weight values. Note that the field "Weighing system" is only visible if the M-Check2 supports cental units. Innova sends a message to the M-Check2 on connection the M-Check2 responds with a message containing, among other properties, if cental is supported. To simulate an M-Check2 that has cental support, enable cental support in the Packing System by setting **AllowUSCustomWeighing** to true.

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Report fixes implemented

The Product Total Report was showing the Header Weight in oz and the actual weights are grams. This issue with ProductTotal report displaying nominal weights stored in SI when system is imperial has been fixed.

A minor issue was fixed where the Weighing histogram report had no values for weights under 100g for M-Check2.

Avoid underweight rejects at batch change when using FPU

In the FPU solution the checkweigher automatically changes batch (e-weighing inspection lot) after 10000 items or 1 hour, whichever comes first. When that happens, the FPU must restart giveaway and set target weight equal to nominal weight. However, if there were already several items on the conveyor belt when the checkweigher started a new batch, they might have been cut with a target weight that was less than the nominal weight. These items would be rejected by the checkweigher because the average weight of the batch was greater than or equal to the nominal weight.

To solve this issue, the FPU now detects when a batch is almost finished and then activates batch safe mode. When batch safe mode is activated, the target weight equals the nominal weight to eliminate underweight rejects when starting a new batch.

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FleXicut

New fish species supported

The Flexicut Program Editor now supports two new fish species: salmon and flounder. Previously only cod was supported.

The fish species is fetched from the material in the productsetup JSON file (e.g. Default – Cod – cod.product.json). The current fish species changes various buttons and labels/translations in the program editor.

For flounder

- Skin side up is translated to white side down.
- V-Cut is translated to Cut everywhere or has been removed.
- Portions button has been removed.

In Required Portions:

- V-Cut is translated to Fish.
- Remainder is translated to Offcut.
- Jet crossover has been removed.
- Tail tab has been removed.
- Walking stick tab has been removed.
- Alternate jets and Split line extends have been removed.
- Reject tab has been hidden.

As seen in the image below, no V-Cut is being cut. Only the fins are cut off.

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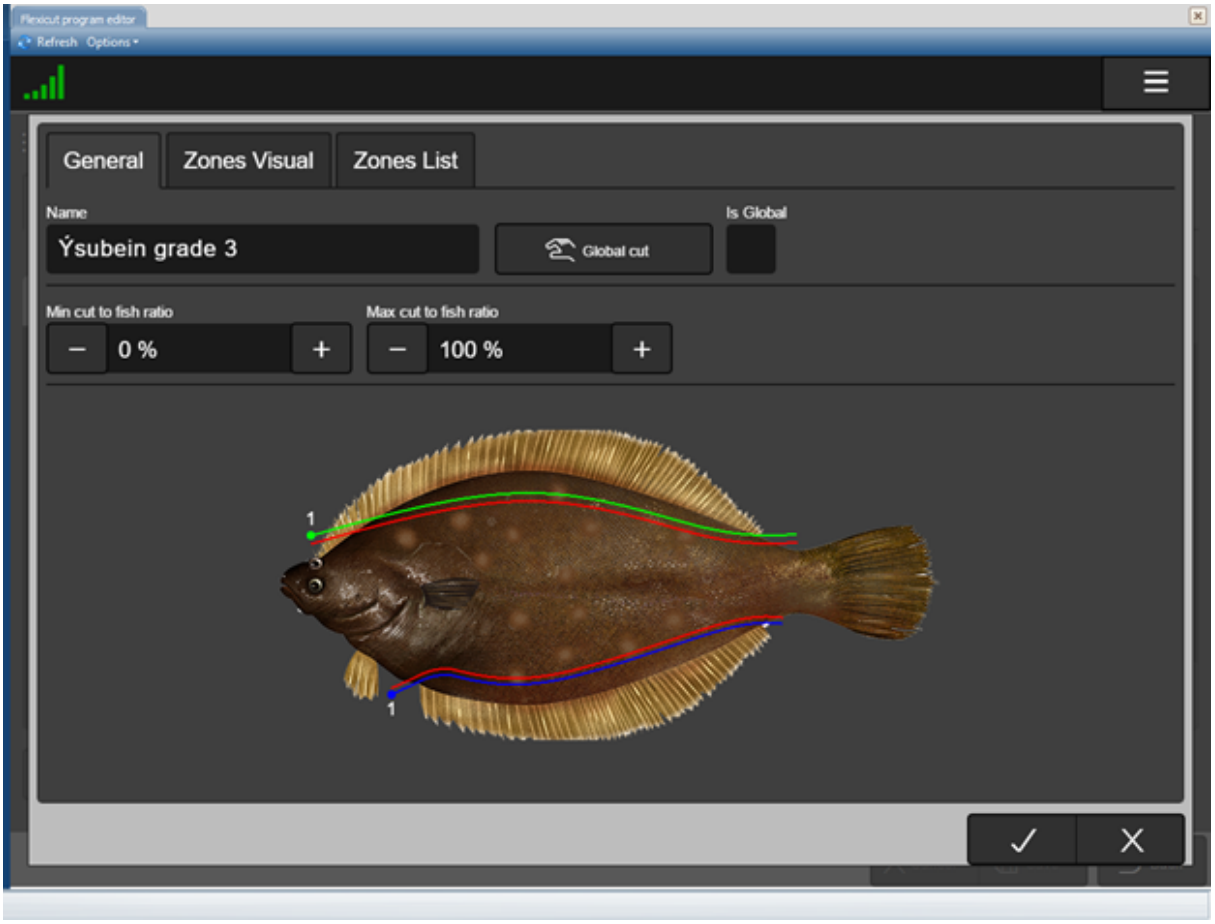
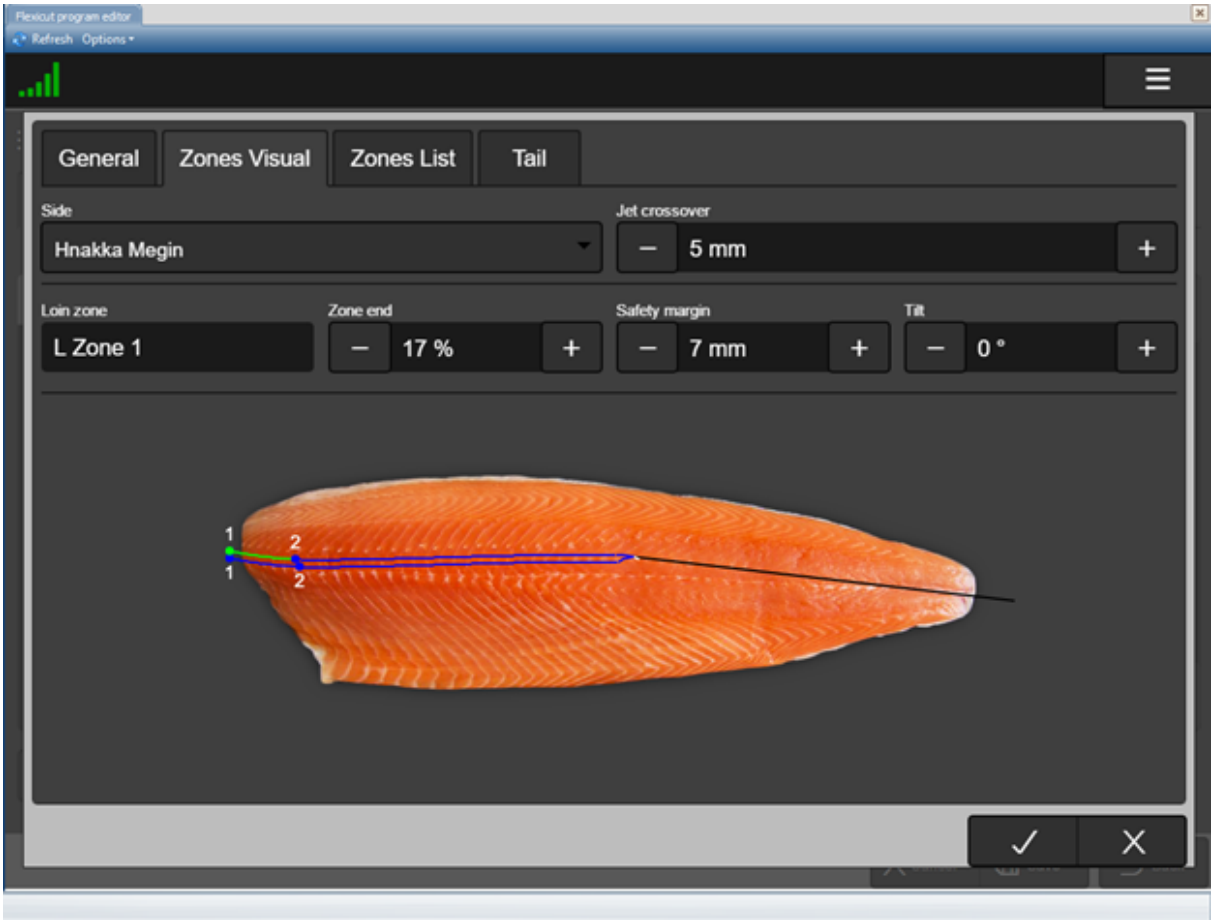


For salmon

- Walking stick tab has been removed.

New image of fish:



Offset for belly side is the distance from the starting line (the bones) to the belly cut.

Offset for loin side is the distance from the belly cut line to the loin cut. That means if the belly cut line is changed, both the belly and loin cut will move.

Walking stick shown

If walking stick is included in V-Cut, then the walking stick bone is rendered along with the knife cut in the Walking stick tab:

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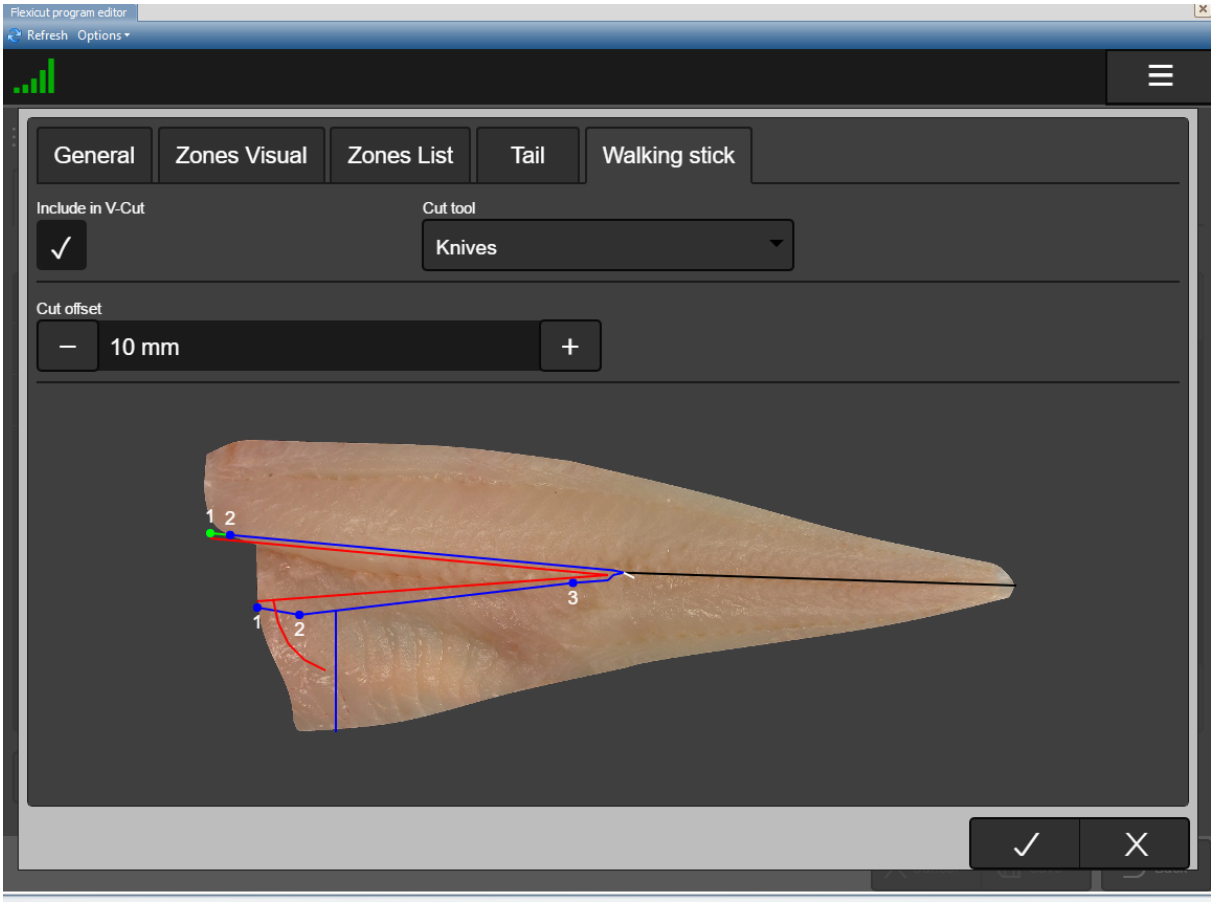
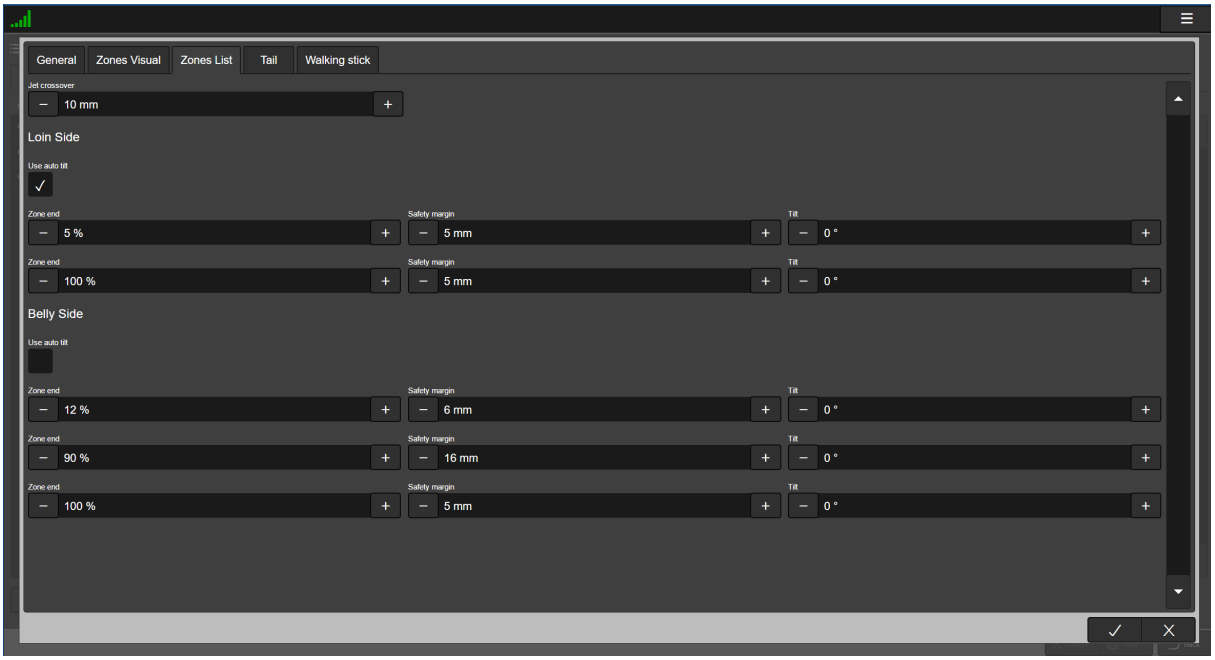


The red curved line is the walking stick bone and the blue vertical line is the knife cut. The Cut offset sets the distance between the end of the walking stick bone and the knife cut.

Auto-tilt reactivated for V-Cut

Use auto tilt has been added to the VCutSetup dialog in the Flexicut Program Editor. The checkbox can be found in the Zones Visual tab and Zones List. The check box applies for each side (loin side and belly side).



When activated, the existing tilt settings for the selected side are reset to 0°. However, the user can still adjust the tilt settings after activating the auto tilt. When deactivated, the existing tilt settings do not change.

The auto tilt switch is not available by default; it must be activated in the configuration for the FlexicutProgramEditorCE user interface item.

Grouped weight distribution report added

The Grouped portion weight report enables the user to see weight distribution for each of the portion types being cut. It is based on the input product.

The report shows the weight distribution in a single graph for all of the portions. Each color represents an output portion.

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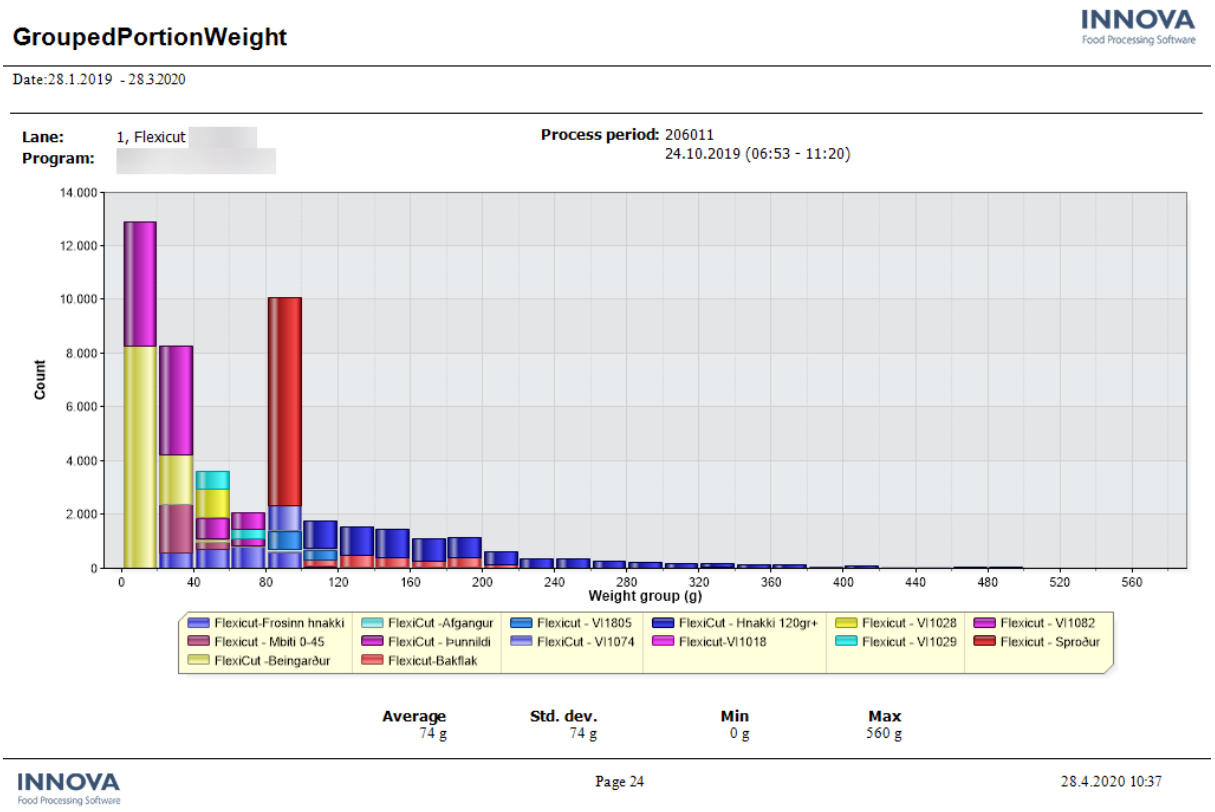

FleXicut Portioning detail report added

The FleXicut portioning detail report generates a quick overview of what has been produced within the selected period. Details of both the input pieces and all three output portions (primary, secondary, tertiary) are shown.

Rejects are displayed below the Output (portions). The list shows the portion, the count (how many pieces had bones), and the reason for the reject.

Other FleXicut improvements

Program update changed settings back to default

When the **Include in V-Cut** checkbox was unchecked in the Walking stick tab, the box would get checked again at seemingly random times. This caused an unwanted program upgrade that changed some settings back to default. This has been fixed and Flexicut no longer downgrades.

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Jet crossover setting adjustable in two tabs

The Jet crossover setting was adjustable in two tabs and the values did not always agree. This created problems. Now the Jet crossover setting changes both loin and belly side so the settings are always the same.

Knives reverted to water jets

Cut tool settings no longer revert from knives to waterjets on save.

Negative tilt allowed

The Tilt setting in the Zones Visual tab in the FleXicut Program Editor can now be set to negative tilt.

Minimum weight ratio added for V-Cut

The FleXicut Program Editor now has a Minimum Weight Ratio setting, **Min V-Cut to fillet ratio**, in the V-Cut tab. It is a percentage field indicating the minimum ratio between the V-Cut and the fillet.

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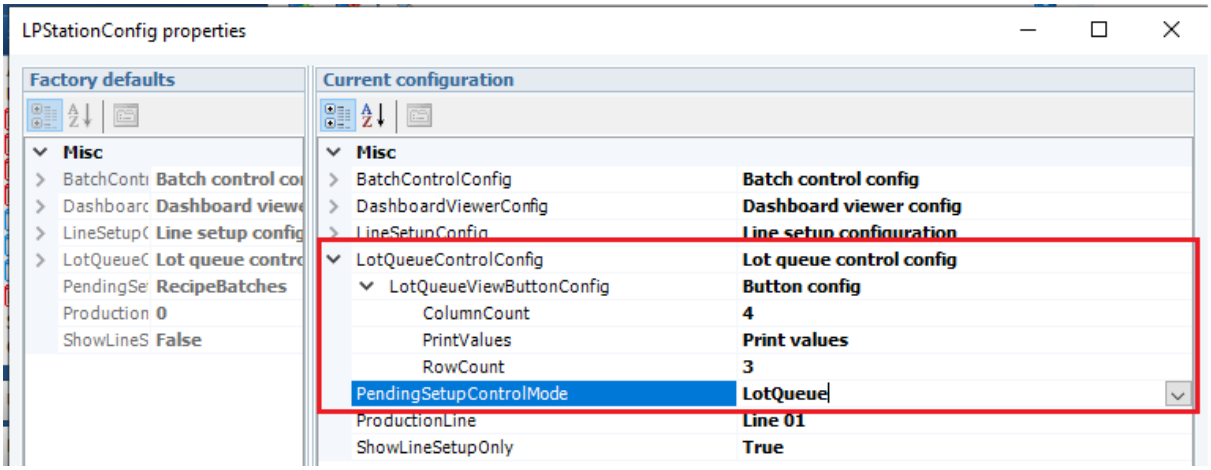
Further Processing

Added option to use Line Profiler without Recipe Manager

A new configuration property has been added to LineProfileCE for IPC that allows pending line setups to be controlled using Lot queue instead of Recipe Batches. When the PendingSetupControlMode option in the LineProfilerCE configuration has been set to LotQueue, then the "Batches" button is replaced with a Lot Queue button.

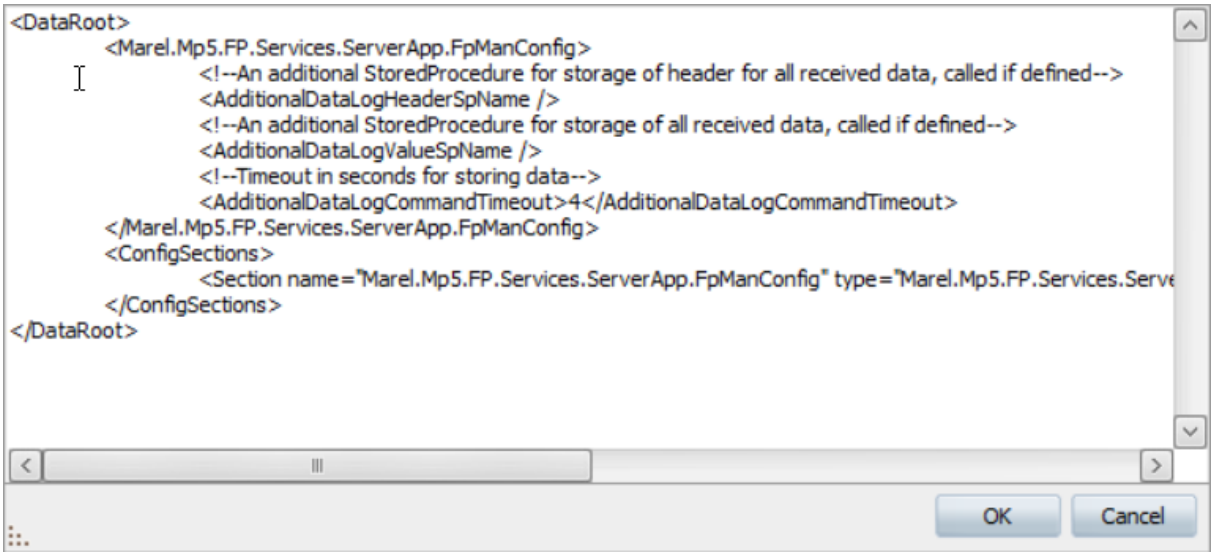
If the user is using the lot queue to control line setups, then it is necessary to configure the buttons for the lot queue:



Improved Prepared foods data handling

Storage of all device data

Additional storage of all received device data can be configured in the system program setup for each FpMan.exe instance, and will be used by all devices controlled by that.



If both **AdditionalDataLogHeaderSpName** and **AdditionalDataLogValueSpName** are defined (not blank), they will be called at run-time each time data is received from the device. (The table type must also be defined.)

AdditionalDataLogHeaderSpName

The first stored procedure is for creating a header record that binds the values to each other and has a set of common Innova process data. The stored procedure must be made with a set of parameters and must return the ID of the created header record (int).

AdditionalDataLogValueSpName

The second stored procedure is for creating values. The parameter for this is a table with data (table value parameter), and the stored procedure must return the number of records inserted as int. The type for the table must be defined.

Export black box data to CSV

It is also possible to export the data from devices to a CSV file. All the required files for Black-Box data export can be found in the Innova installation folder under /in-stall/Config/FP/BlackBoxQueries.

Before the data can be exported from the database, the stored procedures required for the data export need to be installed into the database. This is only required the first time the

data is exported or when the system has been updated. Use either SQL Server Management Studio to query the data, or export the data directly to a CSV file using the bcp command line utility.

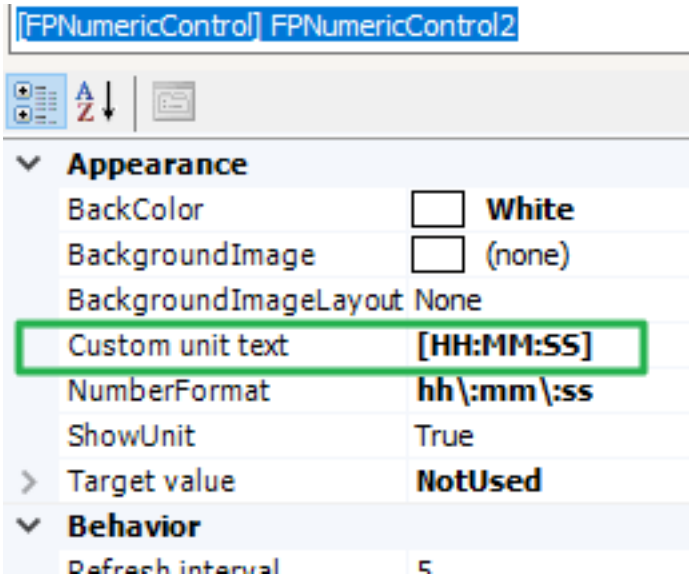
There are four queries that can be executed to get the data:

- GetAlarmAndEventData.sql
- GetTrendData.sql
- GetTemperatureInspectionInfoData.sql
- GetWeightInspectionInfoData.sql

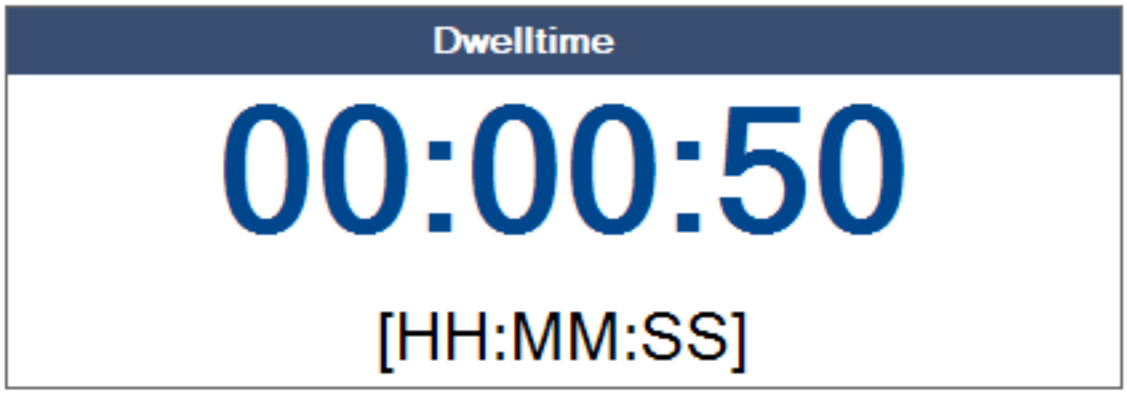
For detailed information about using this, see the appendix in the *Innova for Prepared Foods Installation and Configuration Manual*.

Added possibility to configure custom unit text in the Numeric program value dasboard component

It is now possible to add Custom unit text to the numeric control.



If it is not blank, this will override the standard unit text.



Improved batch error message

The error message shown when the operator was unable to start a batch because another batch was still in progress was not clear. Information about Batch in progress is now added to error messages shown on IPC. All text except the PL, date, and product is translatable. The text outlined in red in the image below can be configured to be shown or not. See the *Innova for Prepared Foods Installation and Configuration Manual* for details.

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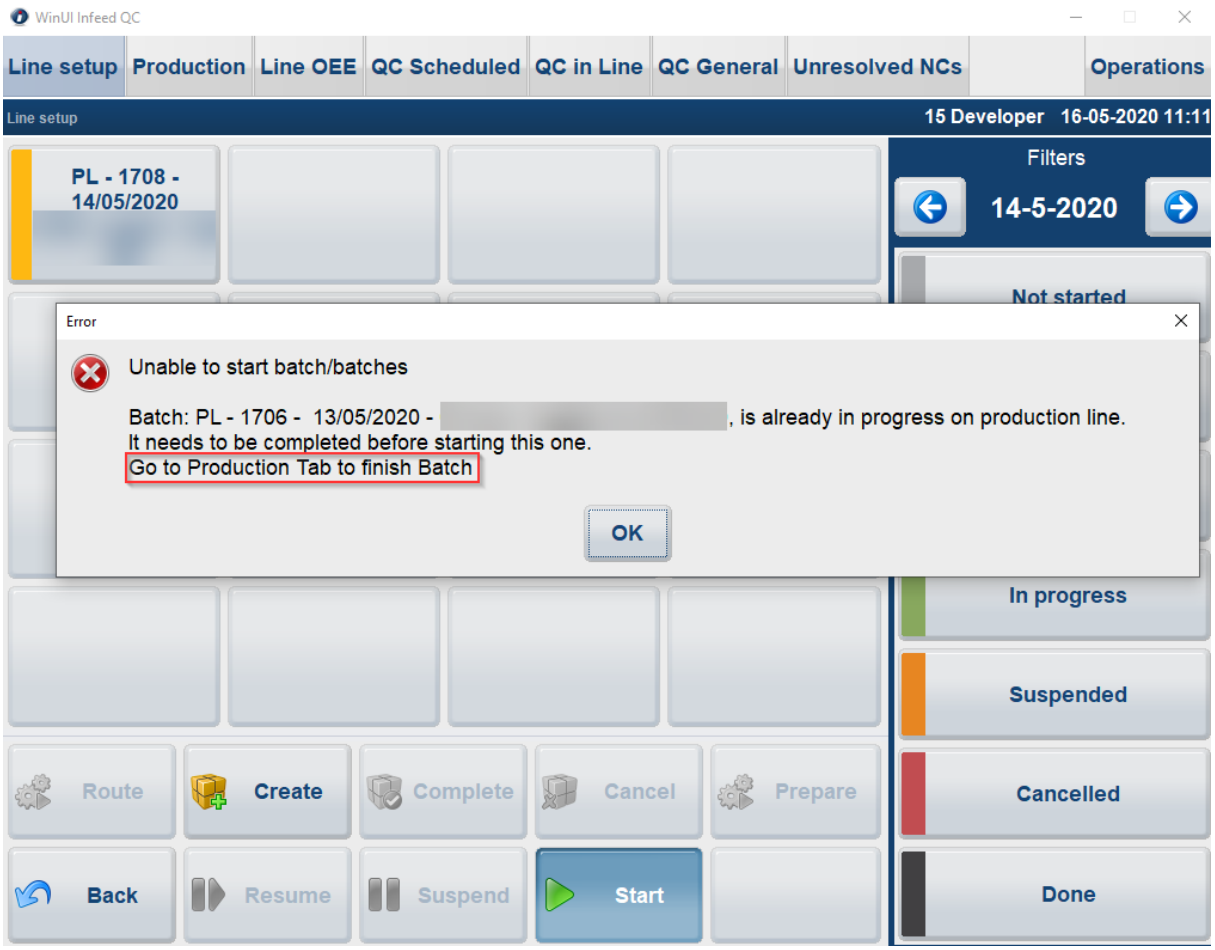
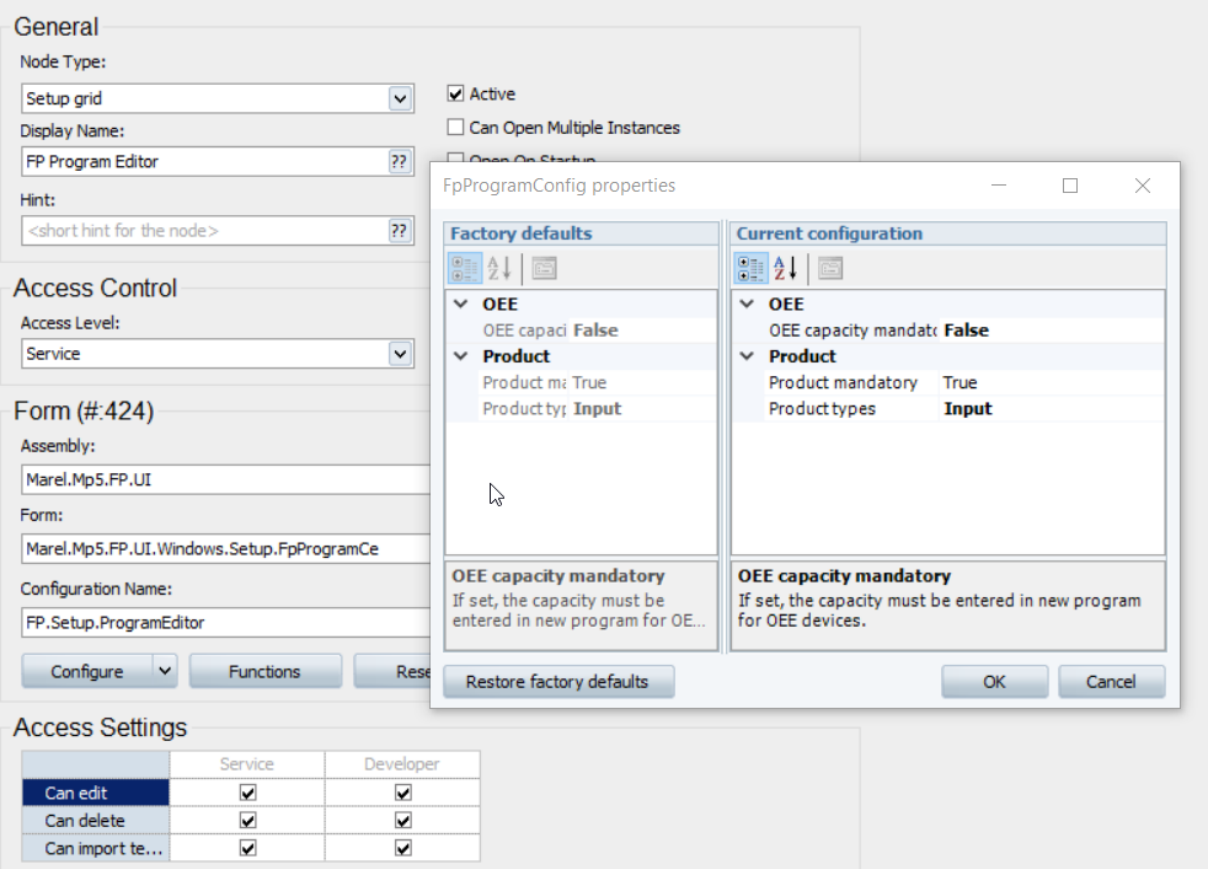


Complete batch button shown even though automatic batch completion configured

When a batch was finished, it was not possible to complete the batch form WinUi. The "Complete Batch" button stayed unavailable. This occurred because automatic batch completion was active. Now, in cases where batch manager is configured for automatic batch completion, the Complete batch button will not be shown on the toolbar.

Product and capacity required for programs

It is important that the batch progress is shown correctly. To do this, the program must have a Product set. To achieve this, a configuration property, Product mandatory, has been added to the FP program editor configuration. If this is True and the user leaves the Product field empty, an error message is shown.



Product selection has been added to the *New program* dialog for FP Programs and is also required to be selected when validating existing programs.

Additionally, the *OEE capacity mandatory* configuration property can be configured to be required if accurate OEE figures are needed.

Batch progress reset on batch completion in Line overview dashboard

An issue was discovered where batch progress was not reset on batch completion if RevoPortioner was not part of the line setup.

To fix this, the following changes were made:

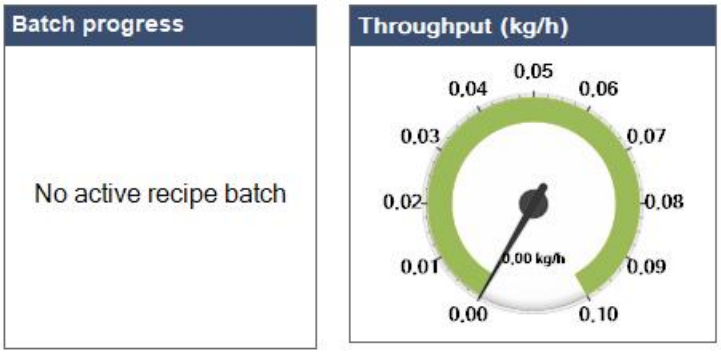
- Lot change on the process unit was not handled correctly in FPController, therefore not all scenarios were handled correctly. Now context changed event is used instead.
- The Control recipe that is used to fetch status of the batch (e.g. InProgress, canceled, etc.) was not updated, so when a new recipe batch was created without a change in

the line setup, the old batch was used and it got an incorrect batch state.

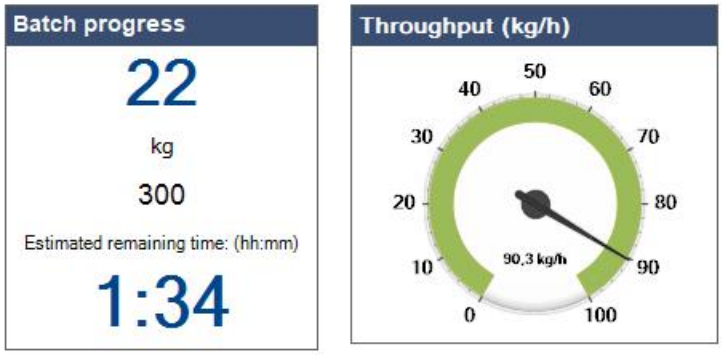
- Batch progress, batch target amount, and text in the dashboard component is now shown correctly and reflects the current running recipe batch. All text in the batch progress component is now translateable.

This is how the Batch Progress appears in the following scenarios:

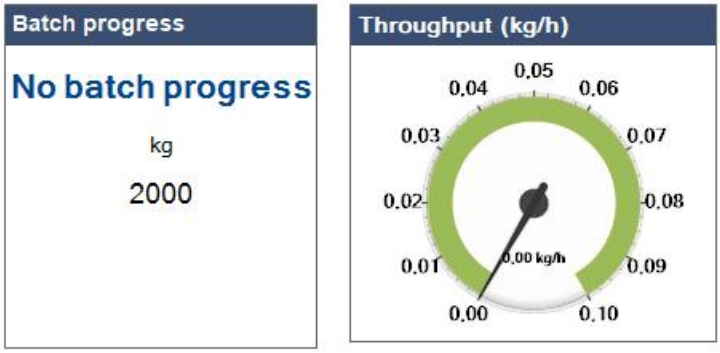
Batch canceled:



Batch running (incl. RevoPortioner):



Batch running (No Revo):



Other Prepared Foods improvements

A number of "old" files that were in the FP/PF installation folder have been removed. Also, some refactoring was done to handle faulty device communications better.

Instead of an exception, they are now logged as error messages in the error log because they are handled by a retry.

Support for the SpiralOven (TSO) has been added.

The Program editor showed icons for MOS and TSO in front of the parameters. However, it was decided not to show these icons for any of the machines. Therefore, to be consistent, icons in front of parameter names for MOS and TSO were removed.

When a device raises an alarm and is taken offline, the alarm stays high in Innova. For Prepared Food lines, it is normal that devices are taken out of a line and sometimes remain out of the line for a longer period. In the dashboards and some alarm reports, the alarm for a device that was offline still appeared, which was confusing for users. To fix this issue, the **Reset alarms when offline** configuration property was added to the FP system setup for stations to lower the alarm flag and remove the alarm from dashboards. This makes it possible to set a time in minutes for when the alarm of an offline device should be removed.

The time column on the IPC was not wide enough to be fully readable when using all possible time formats. Now the time column has been adjusted to fit both HH:MM:SS and HH:MM:SS AM/PM format. Also, the alarm text in Line OEE main view has been centered.

An issue has been fixed where initializing the fpman.exe system program with an empty UnitMap configuration caused an error in the log. Empty entries are now ignored and invalid data is deleted.

All of the prepared foods device names have been updated to match the marketing names.

An issue was fixed where it was not possible to configure the Line overview dashboard component the first time it was added to the dashboard.

An issue has been fixed where the FP Production Line control was causing exception when line setup was changed.

In the Alarm overview form the description for the alarm has been improved. It now says "No reply on program template request." Another issue in the Alarm overview was that the time of "alarm occured" was in the future. This was due to the PLC and Innova becoming out of sync. In cases where the alarm timestamp is more than one hour in the future, the current time of the server is used.

In some cases, the time in the error message for timeout on program activation did not match the configuration. This is because the configuration was created in two places and the wrong one was used. This is now fixed so only one configuration is created for each device.

Improved appearance on Lot Temperature and Lot Yield reports

The Legend box has been moved above the graph so the graph can take up the full page width. Also, the x-axis showing time range has been fixed for all graphs using the min/max regtimes so that the graphs "line up" when multiple graphs are shown.

Additionally, some extra criteria have been added. The Production Day criteria is used along with the Lot criteria where Production Day is a dependant criteria. The Production Day criteria filters the Lot selection dialog based on the production day range using Lot's ValidFrom/ValidTo properties.

Enable correct QC inspection items to show up in Lot Temperature and Lot Yield reports

To enable inspection items for Lot Temperature and Lot Yield reports, the corresponding items must be labeled to indicate it should be included in the report, using the **Text 1** column in the **Inspection items** form. This is necessary since the value type does not necessarily reflect temperature or weight - formula often used instead.

For the Lot Yield report, label the inspection item with **Yield**. For the Lot Temperature report, label the inspection item with **Temp**.

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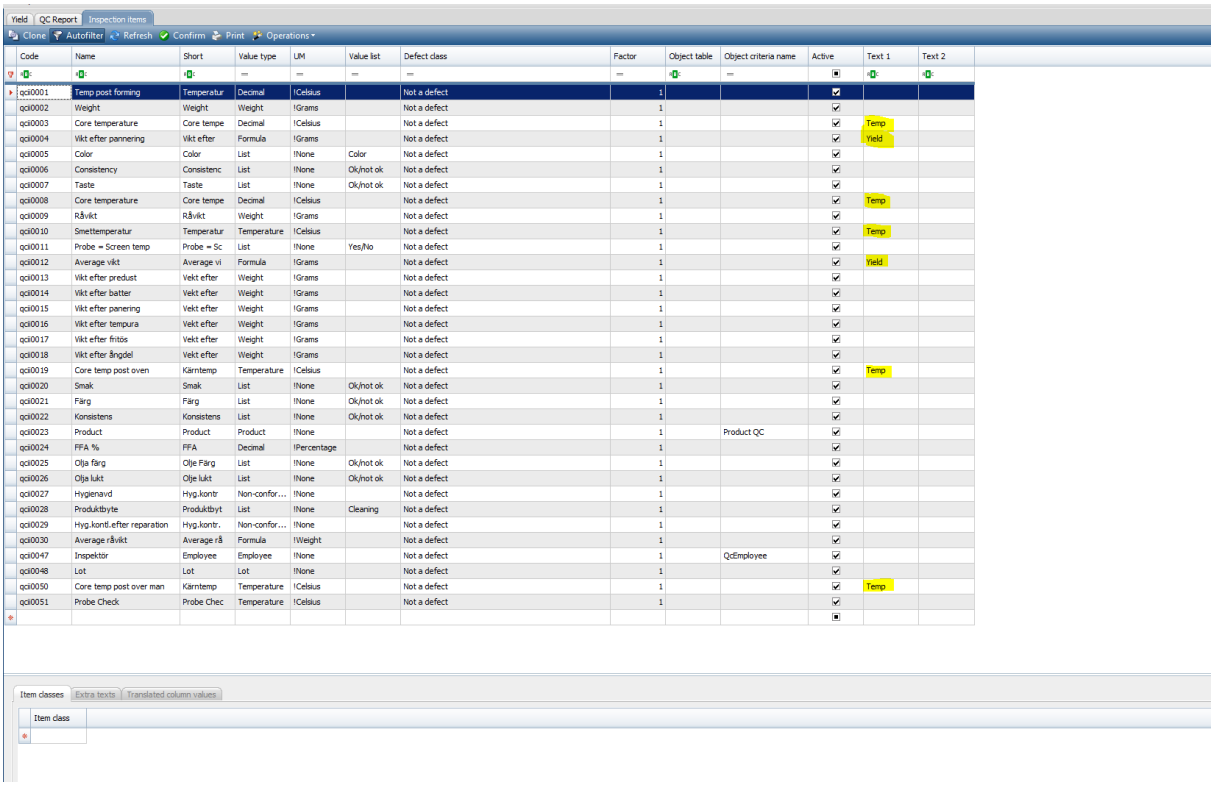


More robust template import

Several issues related to importing templates from devices have been resolved.

The XML import process error messages have been tested and improved for multiple fail scenarios. The last imported template file can always be found in the AppData Marel Temp folders: C:\Users\<username>\AppData\Local\Temp\Marel.

Also, an issue was fixed with the FP Event template not updating correctly when the template was imported from device.

Another issue where the event description was not updated upon template import has also been resolved.

And "file:\\" is now included in the default template path for Station Configuration. That way import from file is available by default when adding a new station to the FP System.

An issue was fixed where Boolean parameter values were being reset in program values when the program template was imported.

And the number of digits per program parameter is controlled in the template XML to tell Innova how many decimal places should be shown for each of the program parameters. If this value is missing Innova displays one digit after the decimal point/comma.

Exclude some event messages

A configuration property, ExcludedDeviceNumbers, was added to DeviceEventDataGrid > DeviceEventDataGridConfig. This property can be used to filter the form's data based on the provided device event numbers, i.e., the rows containing the numbers specified in the property will be excluded from the form. Numbers can be separated using a comma(','), dot('.') or space(' '), and it also accepts ranges using hyphen ('-'). Example: 10,15 16 17, 100-110, 150.151

Incorrect startup sequence can cause unresponsive program

On rare occasions, an incorrect startup sequence of system programs can cause startup deadlocks due to one program requiring other to be started. For FP the startup sequence of system program must be as follows:

1. Process Manager (procman.exe)
2. OEE Manager (oeeman.exe)
3. FP Line OEE Manager (fplineoeeman.exe)
4. Further processing manager (fpman.exe)
5. Any other system program that uses OEE.

An improvement was added to OEE system programs to allow for delayed startup of OEE Manager. And the error message logged when an application program is not able to connect to the OEE Manager has been improved.

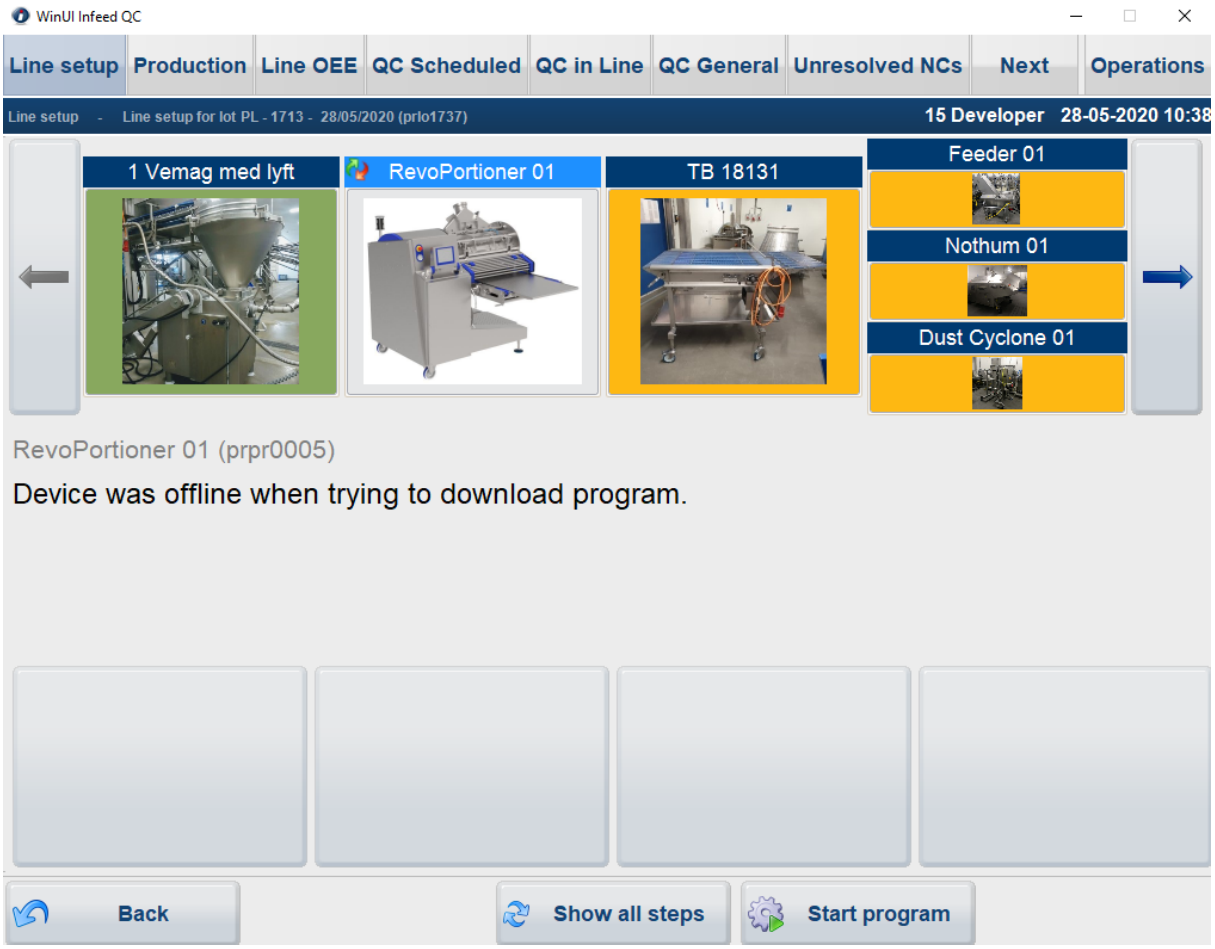
Prevent programs from being sent to capabilities not in the current line setup

To fix an issue where programs were being sent to devices that were not part of the current line setup, lot and prperiod changes for prunits are skipped for the setup capabilities that have been removed.

Line profiler process unit state bug fixed

Process unit activity state was not updated on the IPC Line setup view. This issue where the process unit state was not updating when program download is in manual mode has been fixed.

When the device is offline the following is shown:



When the machine comes online, the process unit state is changed and updated on the IPC and the error text is cleared:

If for some reason the program is started in Innova, the IPC is updated and the correct state is shown so that the line setup can be completed.

OPC UA log level adjusted

The OPC UA log level has been changed from Security warnings and errors to only errors.

Also, extra exception handling has been added for OPC UA.

To fix an issue where OEE status stays on idle when running with devices using OPC UA, the following was done:

- Build collector and Innova installation.ism script (for build server) is changed so the OPC UA configuration file is copied to the correct location.

- If for some reason the OPC UA configuration file doesn't exist, then an understandable error log is now written.
- If for some reason the OPC UA configuration file is read-only, the file is automatically changed to read/write.

Improvements made to Device alarm report

Some improvements were made to the Device alarm report:

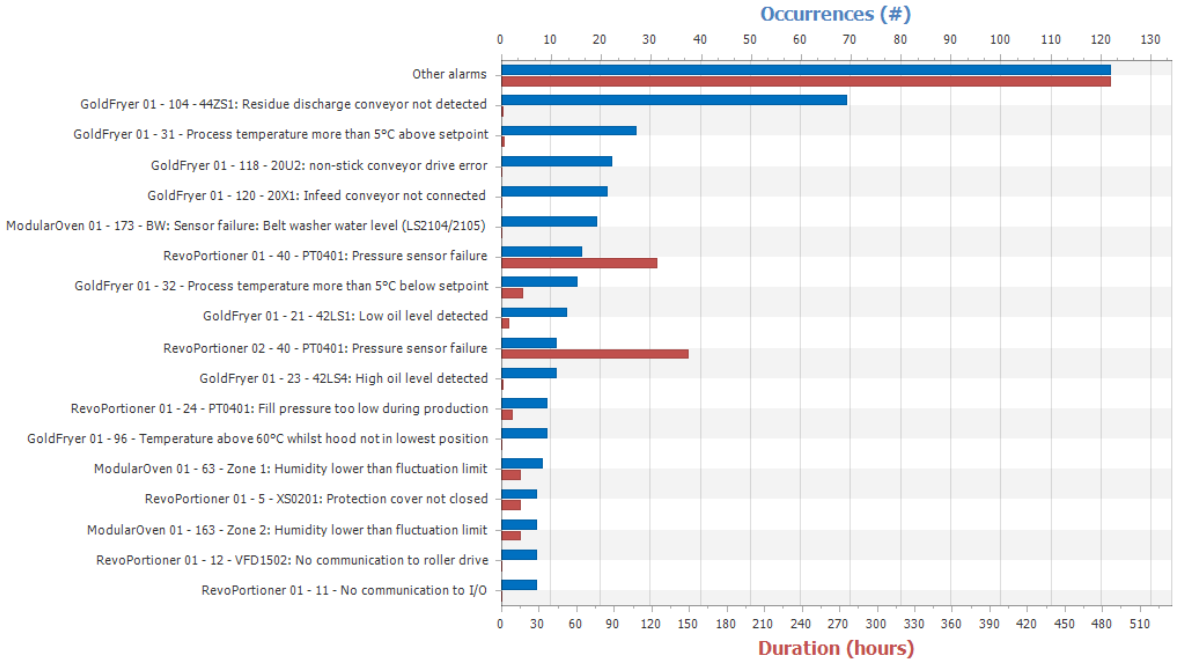
- Duration on the axis below the graph is written in whole hours if the range is larger than 6 hours. Between 1 and 6 hours it is written as hh:mm, and if below 1 hour it is written as hh:mm:ss.
- In the graph the number of alarms shown has been reduced to ensure that labels are shown for all. Previously 20 alarms were shown. This is reduced to 17. The "not shown" are summed under **Other alarms**.
- The order of bars per alarm has been switched. Occurrence is shown first, then duration.
- The table and the graph use the same font (Tahoma).
- The sorting of date will be Occurrence, and then Duration. Those with the same number of occurrences will be sorted after duration.
- The report now fits on US Letter size paper as well as A4.
- The report includes all alarm events that were active at any point during the selected period.

Innova 5.9.2 Release Notes

Device alarm report (standard)

Date:31-01-2020 - 07-02-2020

All devices



18-05-2020 12:53
Page 1

Device alarm report (standard)

Date:31-01-2020 - 07-02-2020

Device	Alarm code	Alarm level	Description	Total duration	Occurences
			Other alarms	486:33:26	122
GoldFryer 01	104	Fatal	44ZS1: Residue discharge conveyor not detected	0:28:32	69
GoldFryer 01	31	Error	Process temperature more than 5°C above setpoint	1:49:08	27
GoldFryer 01	118	Fatal	20U2: non-stick conveyor drive error	0:00:34	22
GoldFryer 01	120	Warning	20X1: Infeed conveyor not connected	0:11:27	21
ModularOven 01	173	Error	BW: Sensor failure: Belt washer water level (LS2104/2105)	0:01:24	19
RevoPortioner 01	40	Fatal	PT0401: Pressure sensor failure	124:17:37	16
GoldFryer 01	32	Error	Process temperature more than 5°C below setpoint	16:51:56	15
GoldFryer 01	21	Error	42LS1: Low oil level detected	5:15:21	13
RevoPortioner 02	40	Fatal	PT0401: Pressure sensor failure	148:47:00	11
GoldFryer 01	23	Error	42LS4: High oil level detected	0:41:44	11
RevoPortioner 01	24	Fatal	PT0401: Fill pressure too low during production	8:05:15	9
GoldFryer 01	96	Fatal	Temperature above 60°C whilst hood not in lowest position	0:20:37	9
ModularOven 01	63	Error	Zone 1: Humidity lower than fluctuation limit	14:26:57	8
RevoPortioner 01	5	Fatal	XS0201: Protection cover not closed	14:49:41	7
ModularOven 01	163	Error	Zone 2: Humidity lower than fluctuation limit	14:24:20	7
RevoPortioner 01	12	Fatal	VFD1502: No communication to roller drive	0:00:35	7
RevoPortioner 01	11	Fatal	No communication to I/O	0:00:35	7

Innova 5.9.2 Release Notes

Run chart dashboard component improved

Fixed issue with PF Runchart that did not include datapoints at the start of the selected time period.

A configuration property, **SaveSelectedTagsWhenClosed**, was added to be able to control whether changes to predefined Run charts are saved when closed.

Additionally, an issue was fixed where no data was shown when no recipe batch had been selected. This has been changed so that when no batch is selected, then all batches are shown (i.e., nothing is filtered out). For instances when no throughput data can be retrieved (e.g., not running with RevoPortioner), then the chart will display a text indicating no data is available.

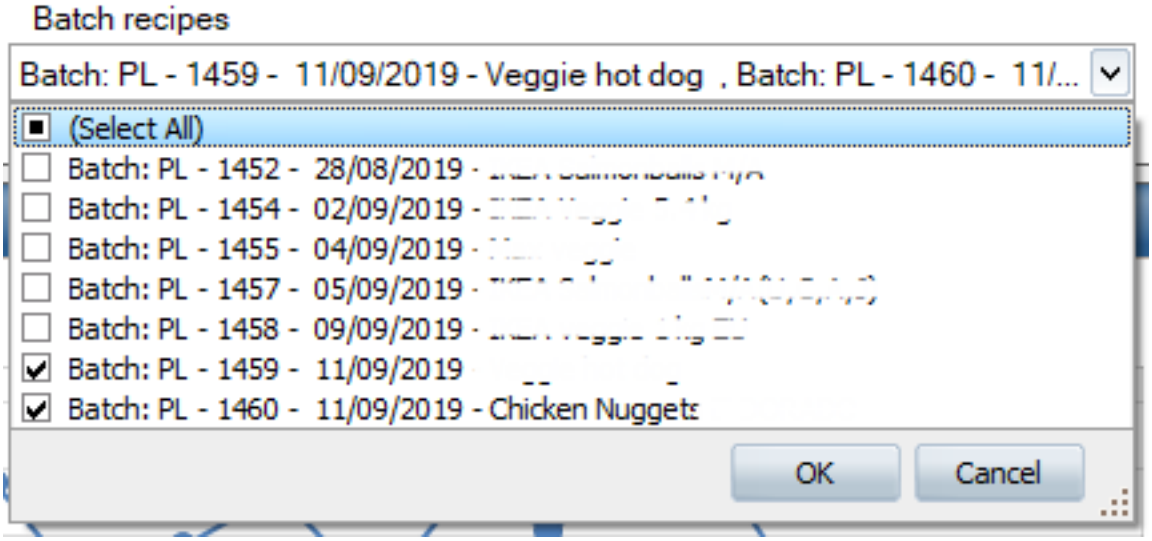
Select time dashboard component improved for easier use

The Select Time component has two new configuration properties:

- Incl. batch before: If true, then the batch that was started just before the selected period is included in the list. This ensures that all batches that have been produced on within the selected period are shown in the list.
- Startup update: If true, then at program startup the batch/program selection list is updated for the current day and all batches/programs in the list are set as selected.

The text for a line in the list of batches is also improved. The line text in the list consists of "Batch:" followed by the lot/batch name as created, followed by the activity name/recipe name. The actual names for the activity will be shown. In the example below they are blurred.

Innova 5.9.2 Release Notes



Dashboard editor crash fixed

If the Dashboard editor with an FP Production line control component on it had been started and terminated a number of times, it crashed. This was due to an out-of-memory issue. It has been fixed by adding some cleanups.

SPC viewer improved

In the SPC Viewer, alarms were added to the alarm window when they occured and again when a new production day started, causing duplicated information in the alarm window. This has been fixed.

Other improvements include:

- Unit (grams/degree celcius or respective unit for "country setting") added to the values
- Sigma 1 and 2 are not visible if not selected in "configuration"
- SPC specification limits: blue, target: dotted blue
- SPC control limits: red, target: dotted red
- SPC product measurements: green dots and green line
- Only a standard view is shown for the SPC option
- A setting has been added to select options (the letters to extend or shorten the information shown on screen must be activated during configuration).
- Data table shows only #n, dependent upon how many samples are taken.
- The following names have been changed:
    - Source is now Product data

- Plugin is now Real-time product data
- <Enter source name> is removed

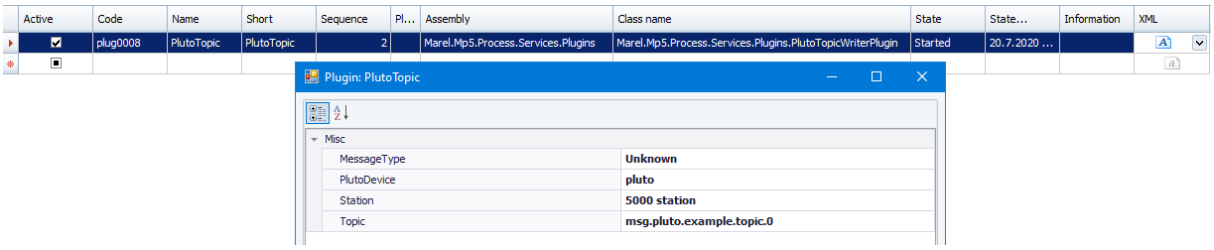
Innova 5.9.2 Release Notes

Grading

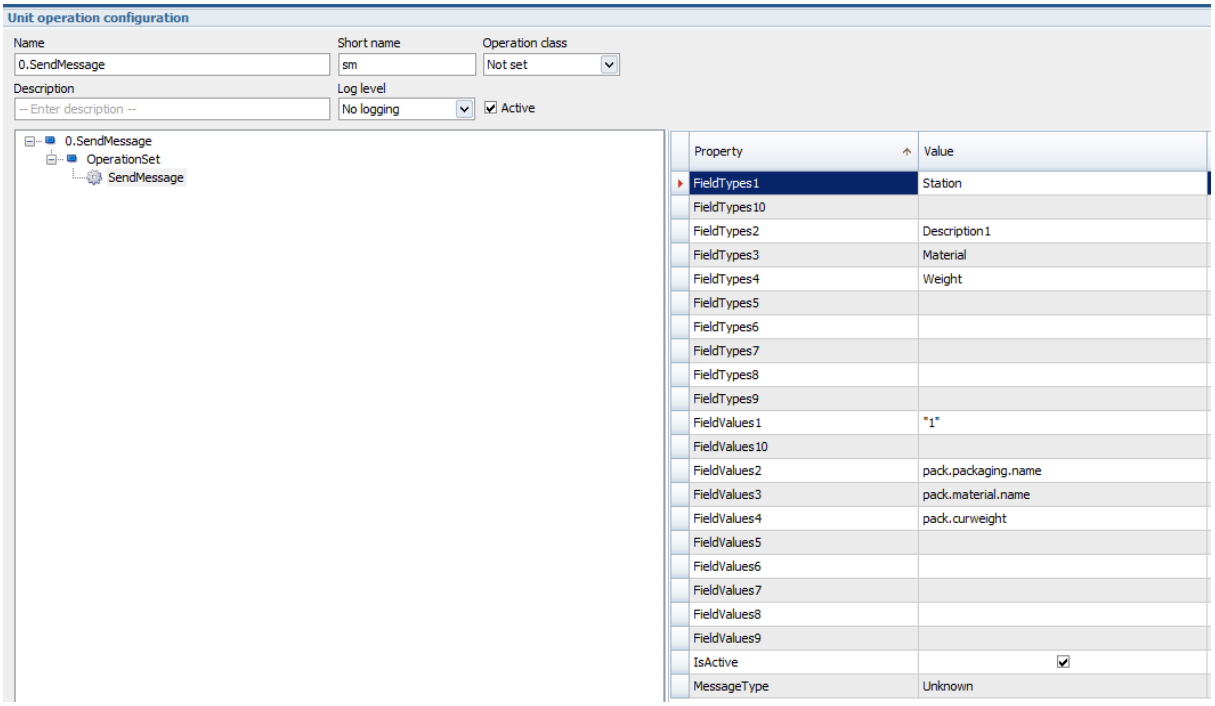
Display takeaway information on M3310

Normally, automatic takeaway information is shown on an M2200 screen using the pmcheck program. Because this can't be used on a 3310 screen, the following can be done:
The plug-in **PlutoTopicWriterPlugin** along with the unit operation **SendMessage** can be used to send arbitrary information to a specific Pluto topic. Embedded order engineering can then write a screen for the 3310 device that displays information from the topic.

To do this, create a new instance of the **PlutoTopicWriterPlugin** and configure it as needed.

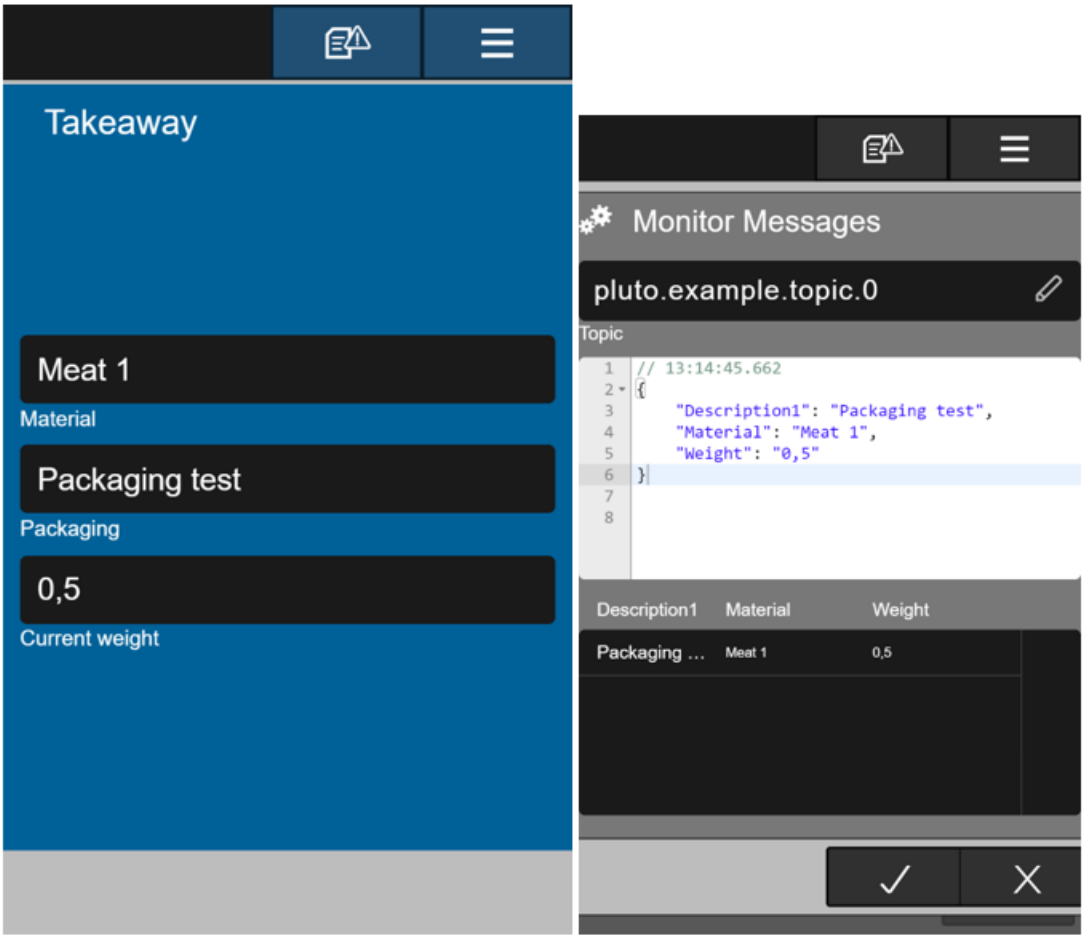


The SendMessage unit operation is then used to send a message to the PlutoTop-icWriterPlugin. A field called **Station** is required and the value must match the station in the plug-in. All other fields will be sent to the Pluto device.



Embedded order engineering can then create a screen that displays information from the topic.

Innova 5.9.2 Release Notes



Print label on two locations in a takeaway

Systems with an automatic takeway that print labels at the end of the takeaway can now have a secondary print point before the end print. **NOTE:** This new functionality only works with a specific type of takeaway (HasLabelAtEndQueue) and can only be used in addition to the end point printing.

The trigger for this is a RecAtPos (70) message with the position field set to 1 (REF). Additional configuration has been added to the takeaway XML configuration as follows:

```
<DataRoot>
  <Marel.Mp5.Grad-
ing.Services.Configuration.Takeaway.Configuration>
```

```
...
    <!--Unit operation for printing pack at REFPOINT -->
    <PrintPackRefUo />
    <!--Unit operation for printing incomplete pack at REFPOINT -
->
    <PrintIncompletePackRefUo />
    <!--Printer for printing pack at REFPOINT -->
    <PrintPackRefPrinter />
...
  </Marel.Mp5.Grad-
ing.Services.Configuration.Takeaway.Configuration>
...
</DataRoot>
```

The configuration is similar to that of the end point: two unit ops (PrintPackRefUo, PrintIncompletePackRefUo) and a printer (PrintPackRefPrinter). If PrintPackRefPrinter is set to -1 then gate printer number two is used.

Error fixed in CL input histogram report

The error "Object cannot be cast from DBNull to other types" was appearing when the date was selected. This has been fixed.

Error corrected with copy function in Grading programs form

In the Grading programs form, using the F8 key to copy the **Batch mode** column will now cause Innova to clean out parameter values for the old value. This was not done before, causing possible problems with system programs.

Exception on M2400 fixed

An exception was appearing on the M2400 grader.

Exception type is System.ArgumentNullException.
Error stack:
1) Value cannot be null.
Parameter name: Screen system set value is null

To prevent this, a check was added for the PrunitScreen flag and now Innova does not control the screen system.

Innova 5.9.2 Release Notes

Support added for third-party graders

A new Grading device was created that can be used with third-party graders implementing a simple protocol. A simulator that implements the protocol was also created.

Column added to Piece registrations

The weight column to was added to the Piece registrations table and is populated with the value type CL.

Batch unit tare added to Spacker

To be able to use the LogiflexTakeaway plug-in with the Innova Spacker solution the unit tare must be set on the batch object forwarded to the plug-in. This capability has been added.

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

IMPAQT

IMPAQT OEE

The changes included here are specific to IMPAQT (OEE for Poultry Lines). For other general changes to OEE, see OEE.

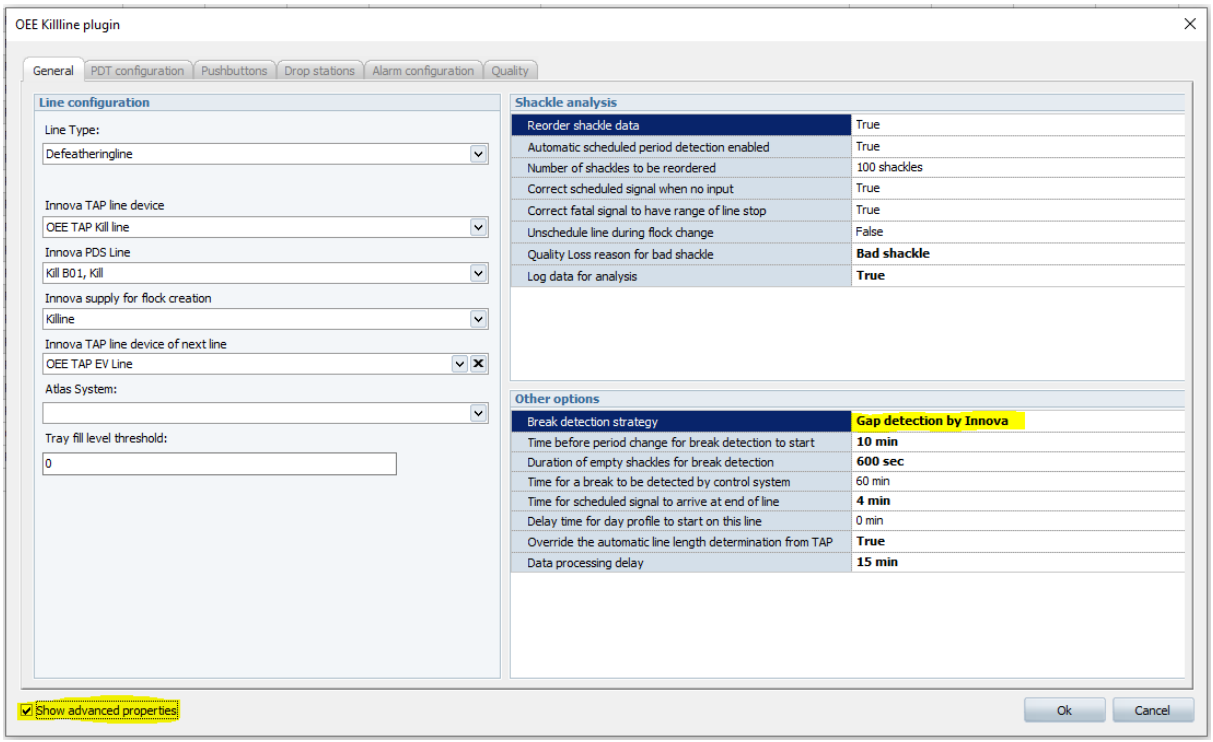
Break detection improved

In the IMPAQT software the method of detecting a break in the line has been refactored.

Before, it was only possible for the PDS to detect a break in the line. Innova now has refactored code and has added a factory and strategy pattern so that new break-detection algorithms (strategies) can be easily added in the future.

To start, a simple gap detection strategy by Innova was added. This makes it possible to remove the algorithm from the device itself so that it can be more easily changed, maintained and expanded in Innova. Refactoring the code makes it ready for future improvements such as more intelligent algorithms to detect the correct break periods between all the gaps that can occur in the line. One advantage of the algorithm implemented in Innova is that the size of the gap to be detected can be increased.

In the plug-in configuration, the user can now choose which strategy to use.



- Break detection by device: the default way breaks are detected. Before a break should start a message is sent to the device. The device finds a gap in the data and then sends a message back to Innova that contains the start time of the gap at the beginning of the line. This is the proven strategy already running at customers.
- Break detection by Innova: Innova itself is used to analyze the data received from the device and detect a break. Innova is capable of detecting bigger gaps in the line but sometimes needs to estimate the break time at the start of the line if no OEE output data is available yet. This could cause some deviation in accuracy. The break detection by Innova option has some constraints and needs attention when configuring it. Please read the *Innova for IMPAQT Installation and Configuration Manual* carefully.

Equipment monitoring OEE Quick Config optimized

When the OEE Quick Config is executed, the pluginhost and plug-ins are installed at the last stage of the process. The OEE manager needs a minimum delay of 20 seconds when the pluginhost is installing. If this delay time is shorter, there is a risk that the plug-ins will not start because the OEE manager is not yet initialized.

With the new functionality implemented, the delay time needed to ensure that the OEE manager is initialized is automatically calculated. There are two scenarios:

1. The new plug-in host will run under the same program manager as the OEE manager. In that case it is counting all system programs that are available after the OEE manager and sums their executewait time.
2. The plug-in host will run in another program manager with the OEE manager as its program manager. In that case the time in front of the OEE manger needs to be extracted from the total execution delay of the program manager that the plug-in host will run in.

Congestion reason changed

Congestion has been added to the list of Performance reasons and removed from the list of Quality reasons.

Improved alarm handling for live bird handling

Alarm handling for LBH has been improved. The issue of two consecutive failure events with the same alarm has been solved. The first failure event is now an Idle event. Additionally, it was possible that two failure events were registered directly after each other. This is now one event with the first stopreaon.

Section missing day profile causes plug-in crash

If a section used for OEE poultry lines did not contain a day profile (i.e., it was emtpy), the OEE plug-in for Poultry crashed. This is solved. The last day profile record remains active as long as nothing changes.

OEE Line plugin crashed due to wrong SQL server language

One ProcessUnitContextHistoryRecords select method call used a 102 dateformat (criteria argument) which caused the error. This is changed in versions 5.9.1 and higher.

Error fixed when shackle data faulty

When processing shackle information in the OEE Line plug-in a check is performed to see if flock 0 is active in the line that is being monitored by this OEE Line plug-in instance. If this is the case, all shackles that are processed are assigned a state of **EmptyDueToNoInput**. This makes sure that the correct OEE state is being determined and registered by the OEE system. Previously if a shackle had a faulty state due to a broken sensor or user related input, this resulted in incorrect OEE registrations that were displayed on dashboards or reports.

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Food Processing Software

Hang in loss based on live data

Hang in loss is a performance loss that could only be detected after the empty shackles came out of the line, which in the defeathering line would have a delay of about 10 minutes. For the Primary dashboard this figure must be shown as an actual KPI. Previously Innova could not do this because it was missing information that was needed to determine the hang in loss live. Now Innova gets the information from the real-time TAP system and is able to determine the hang in loss directly so it can be used as a KPI in the Primary dashboard, similar to all performance/quality reasons.

TVP insertion errors corrected

In Innova 5.9.0 a bug was found that could cause the OEE poultry production data storage to fail because shift ID 0 was used; this was a non-existant shift. This could happen if the line was running while Innova service was started. This bug is now fixed.

New quality reasons added

Four new default quality reasons for OEE poultry lines are added to the system:

- One Legged Linelink-DE
- One Legged Linelink-EC
- Dropped at Linelink-DE
- Dropped at Linelink-EC

Also, the name and short name columns in the loader data of default stop reasons, performance reasons, and quality reasons now have value resources coupled. This means that if such a value resource in another language is available, it will be used in the name and short name columns when the OEE system is being installed for the first time.

Default Signal map adjusted

The default signal map is changed for the following rule: when the line is not running and there are no products (e.g., in the evisceration line), the OEE result is line restraint instead of line stopped.

Quick Config improvements made

Quick config node selection more robust

Quick Config would fail when the OEE user interface folders were copied manually into another WinUI item, instead of importing the UI packages again. The Quick Config now gives the user the possibility to select another node to which to install the reports.

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Wrong day profile method corrected

The Quick Config for the OEE plug-in for live bird handling systems (GP) configured the shift method and day profile method of process unit incorrectly (Manual). This is now corrected to **Automatic** so that the LBH OEE plugin gets these context changes from the process unit.

Signal set incorrectly

In OEE for poultry lines the scheduled signals were sometimes not set correctly at night and remained high when they should become low. The reason for this was that some of day profile periods were marked as not applicable because they were not within the expected time period. The reason for this was that the delay for the day profile method to arrive at the start of the line fluctuates (a measurement by the TAP system). This is now fixed.

Early production start detection changed

When production starts outside the schedule because flock becomes greater than 0, OEE will also start measuring. But often at start-up there is line restraint at the beginning. This should not be measured because it's outside production. The OEE measurement was changed so this line restraint is still counted as a not scheduled period.

IMPAQT Dashboards

The changes included here are specific to IMPAQT Dashboards. For other general changes to dashboards, see Monitoring.

IMPAQT primary dashboard improved

Several improvements were made to the IMPAQT Primary dashboard:

The IMPAQT Primary dashboard now uses the text Live Bird Handling instead of Life Bird Handling.

Configuration settings have been added for ATLAS general info data. For example, insights about how many trays are being processed are shown on the Primary dashboard. Data is presented per hour and per minute because the CAS system can display both.

In the current implementation of the Primary dashboard there is a message when the plug-in/ATLAS system is not running or when the plug-in or ATLAS system has not been configured. However, when a device configured for an OEE Line plug-in or a device in the Atlas device list is online, no message is shown to the user. To fix this, the .NET Remoting interface

needs to be started as one of the first things in line. Also, a new method was made that sends data to the dashboard which informs the user that a device is offline.

In preparation for the upcoming new platform, the Primary Dashboard can now get data from PDC devices.

A bug causing the poultry Primary dashboard component not to be refreshed when a plug-in reconnected was solved.

Additionally, refreshing a web dashboard component in the dashboard editor now works correctly after a dashboard property is changed.

Primary plug-in reconfigures itself if one of the OEE line plug-ins is restarted

The Primary dashboard for poultry lines shows live performance figures for certain losses in the line and uses the configuration of OEE line plug-ins to extract the possible reasons to show in the dashboard. Behind the dashboard, a Primary dashboard plug-in is running that collects the data.

When the Primary dashboard plug-in is configured for the first time, the user must select the reasons that should be extracted from the OEE line plug-in and shown in the dashboard.

However, when the OEE line configuration was changed, for example, a new reason was added, the Primary dashboard plug-in could not extract it and had to be manually reconfigured to show the change on the dashboard.

Now the Primary dashboard plug-in checks at one-minute intervals to see if the OEE line plug-in was restarted. If so, the plug-in configuration updates automatically by checking which reasons were added or removed. It then shows newly added reasons on the dashboard by default and removes reasons that were removed in the configuration.

The Primary dashboard plug-in then re-initializes the line that is displayed. By doing so, the OEE alarms that are reconfigured in the OEE line plug-in are then used in the Primary dashboard plug-in. (The Primary dashboard plug-in also extracts the configuration data from the OEE line plug-in to display notification messages for alarms.)

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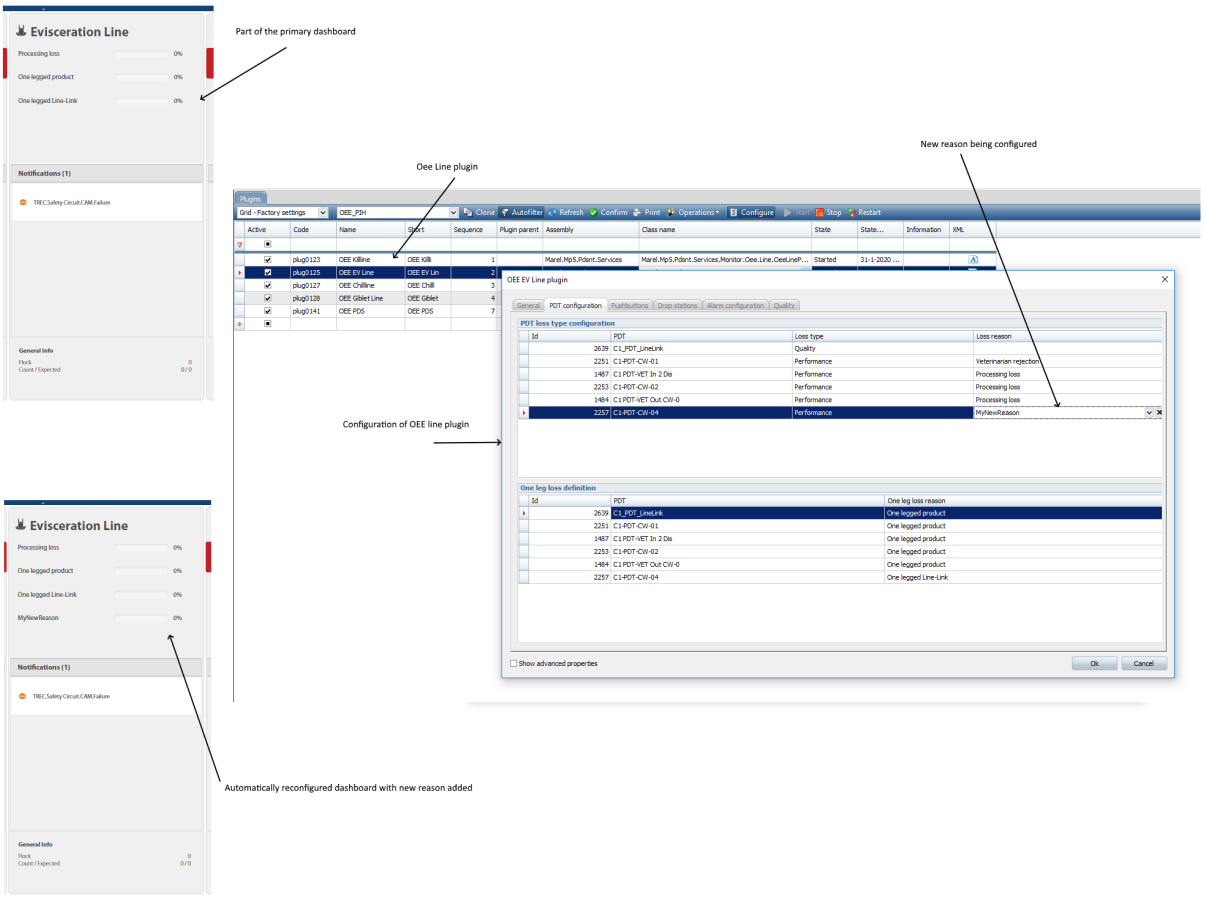


If the OEE line configuration changes and a reason is selected that is already in use in the OEE line configuration but is not visible in the Primary dashboard, then the newly selected reason will not become visible automatically.

In the example above, the veterinarian rejection reason is already configured. If it were configured again for the last PDT instead of MyNewReason, it would not be made visible because it was already not visible.

Rehang dashboard components improved

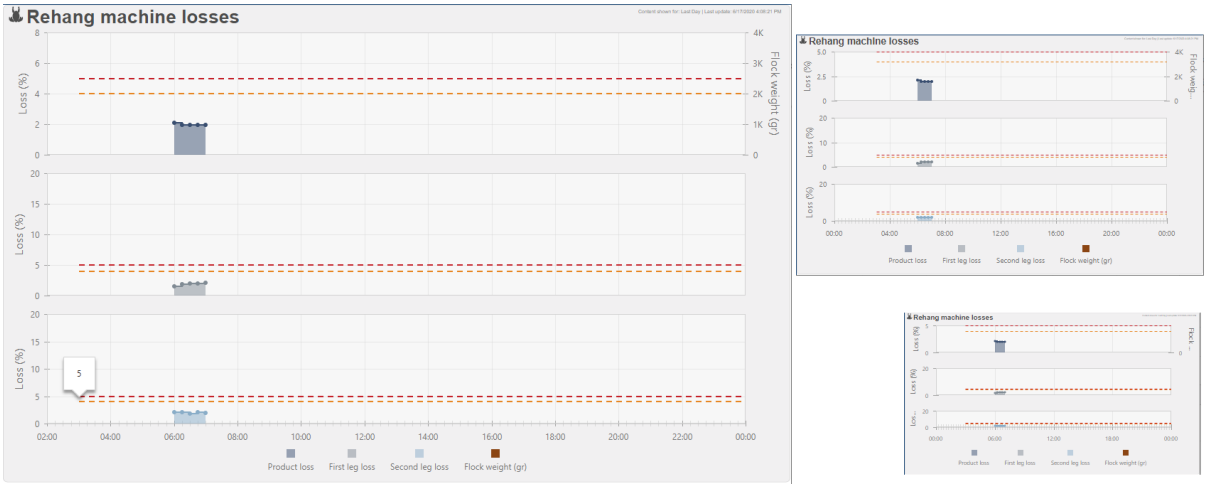
Several small issues were improved in the Rehang Unit performance dashboard component and the rehang machine dashboard component.

Previously, when the legend, axes and other chart elements were smaller than approximately 400 pixels in height, the chart became hidden. This has been fixed and the appear-

ance of the chart has been improved by changing the sizing of the chart elements. Note that readability may become an issue as these elements get smaller.

A script error that occurred when a component was dragged onto the dashboard editor surface area has been fixed. When a component was added to the dashboard editor area and a plug-in setting was selected for it in Properties, the component refreshed but did not show initial plug-in data. Now the page cache has been fixed so that the configuration is not overwritten in the cache. This fix applies to all dashboard web components.

The images show some examples of the resized components. As stated previously, if a component becomes too small, it may not be readable. It's up to the user to decide on what size is still acceptable.



The configuration of the mean weight for the Rehang Performance dashboard has been changed. It is now possible to select a PDSNT-PDA device to get the weight via the PDA Collector, or to get the weights via the PDC Collector. In the latter case, an SND device must be selected and the property **Use PDC data** must be set to *True*.

Also, the width of the title placeholder for all of the rehang dashboards has been increased. It was previously set to 25% of the available space. Now it is 95% which will enable support for longer dashboard titles.

Show additional information in PDT dashboard component

The PDT dashboard can now show the following alongside the existing options:

- Added products (#)
- Empty carriers (#)
- Total carriers (#)
- Product rate (#/min)
- Line speed (#/min) one point per 15 minutes.

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Food Processing Software

Integration Services

ExtCode column length extended to 80 characters for Transfer Engine

The proc_packs.extcode is defined as nvarchar(80) where itgr_tepacks.extcode is defined as nvarchar(30). This was causing issues for the TransferEngine when handling packs with an extcode length over 30 characters. To fix this, a migration was made to extend the length of the te_packs.ExtCode column to 80 characters.

Issue fixed with multiple material translations

In the 5.9.1 release, support for multiple material translation using CodeMapping was added for TransferEngine. A bug in this was fixed in 5.9.2.

Improvements made to WSExportHandler

The WsExportHandlerApplication now supports receiving JSON responses when receiving a response from a web service.

Also, an issue was fixed where the system program checked for automatic exports every 40 seconds. So exports were being exported with 40 seconds delay. Now the system program makes sure that exports are exported exactly when they are scheduled.

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Food Processing Software

Inventory

PacksDryGoodsInventory not reporting RecordedBy to unit operations activated from there

An issue was identified where the unit operation did not have the employee (or rather "recorded by") set when the started from the Dry Goods form. This meant that the information could not be transferred into the integration. To fix this, the employee ID now included in operation data (RecordedBy) when cleaning dry goods inventory. The fix has been added to versions 5.9.0 and higher.

Stocktake issues fixed

When opening the Stocktakes form no stocktakes appeared. An error appeared in the error log that the form was trying to use a missing criteria. This error has now been fixed.

When completing a stocktake, the operation timed out (duration was exceeded) but material transactions were recorded. Because the operation timed out, the stocktake could be completed again, resulting in double material transactions. To fix this when running the Close Stocktake operation in the Stock take form (Marel.Mp5.Process.UI.Windows.Inventories.ST.StockTakePcaUC), a loading dialog pops up to prevent the user from starting any more operations while the operation is running.

Innova 5.9.2 Release Notes

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Food Processing Software

IRIS

IRIS counted too many birds

A fix was made in IRIS product categorization When two IRIS stations are paired, it was previously assumed that a matching product ID in each of the IRIS databases would mean that a product was present in the carrier. However, this was not always the case when a product was lost just before inspection and product detection was not done between that point and t and IRIS. Normally the PDS system informs the IRIS about an upcoming carrier and uses a specific product ID. The IRIS then expects a camera sensor trigger. If there is no trigger, a "no report" result is written to the database.

To solve this issue, an additional constraint was added: there must be a measurement result on both IRIS stations. If both stations have a "no report" result, there is no camera trigger on both stations and thus no product. In this case, the result is ignored and does not count towards the total number of products.

An issue was also solved in the IRIS program that caused part of the reports generated by IRIS not to be taken into account in report registrations in Innova. About 0,7% per flock was always missing when comparing data from different sources. The cause was found and fixed.

Innova 5.9.2 Release Notes

Labeling

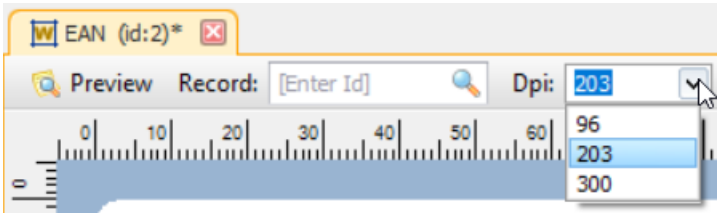
Added additional supported GS1 AIs

Additional GS1 AIs are now supported in Label designer. The following GS1 Application Identifiers are now supported:

- 7002 UN/ECE meat carcasses and cuts classification
- 7003 Expiration date and time
- 7005 Catch area
- 7006 First freeze date
- 7007 Harvest date
- 7008 Species for fishery purposes
- 7009 Fishing gear type
- 7010 Production method
- 7020 Refurbishment lot ID
- 8008 Date and time of production

DPI support added to preview

It is now possible to select the DPI for preview in Label Designer.

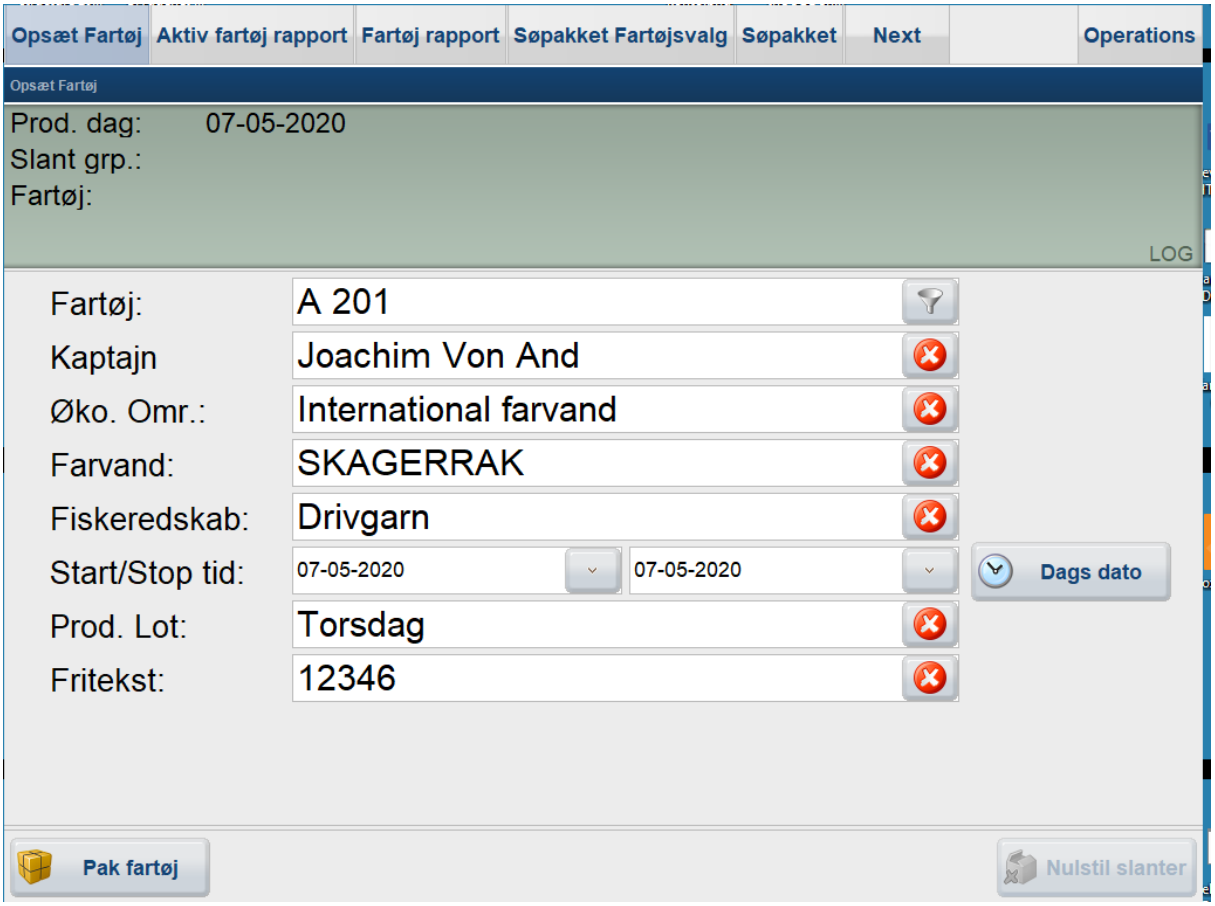


Innova 5.9.2 Release Notes

MarinePack

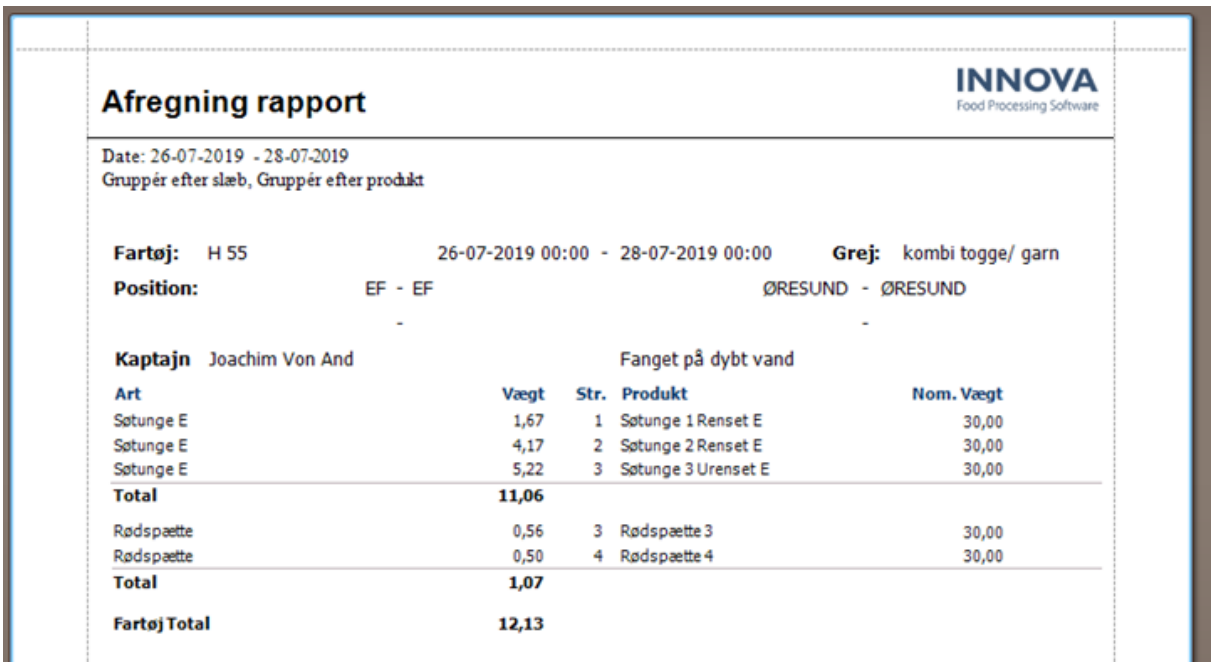
New stamping user interface and fields added to existing user interface

Captain and free text were added to CollectionCentral M6000 user interface.



The CollectionCentralView user interface item has a new configuration property, **Aut. increm. FreeText number**, to handle the free text as a number and automatically increment it. The next number to be used is saved per vessel, and can be seen in the Company form (Dimension4).
If true, the Free Text field information will start to be incremented (if it is numeric) after Packing, and saved. When a vessel is selected, the Free Text field will be updated with the next number to be used. At any time the operator can enter a new text or number.

Captain and free text were also added to the Payment and Boat report. The image below shows the free text "Fanger på dybt vand".



Afregning rapport

INNOVA Food Processing Software

Date: 26-07-2019 - 28-07-2019
Gruppér efter slæb, Gruppér efter produkt

Fartøj: H 55 26-07-2019 00:00 - 28-07-2019 00:00 **Grej:** kombi togge/ garn

Position: EF - EF ØRESUND - ØRESUND

Kaptajn Joachim Von And Fanget på dybt vand

Art	Vægt	Str.	Produkt	Nom. Vægt
Søtunge E	1,67	1	Søtunge 1 Renset E	30,00
Søtunge E	4,17	2	Søtunge 2 Renset E	30,00
Søtunge E	5,22	3	Søtunge 3 Urenset E	30,00
Total	**11,06**			
Rødspætte	0,56	3	Rødspætte 3	30,00
Rødspætte	0,50	4	Rødspætte 4	30,00
Total	**1,07**			
Fartøj Total	**12,13**			

The subtotal for Quality has been removed from the Auction and Payment report, but the report still groups for quality if quality is configured to be shown and grouping/break is on product or pack.

Innova 5.9.2 Release Notes

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Food Processing Software

Til Auktionen

INNOVA
Food Processing Software

Date: 01-01-2020 - 07-05-2020
Art: = (Mange), Samler: = (Mange), Gruppér efter slæb, Gruppér efter produkt

Slæb: [redacted] 06-01-2020 00:00 - 06-01-2020 00:00 **Grej:** Bundtrawl med skovle
Position: EF - EF ØRESUND - ØRESUND
\- -

Art	Nom. ks.	Slant ks.	Vægt	Str.	Produkt	Kvalit.	Nom. Vægt
Rødspætte	1	0	30,00	4	Rødspætte 4	A+E	30,00
Total	**1**	**0**	**30,00**				
Slæb Total	**1**	**0**	**30,00**				

Slæb: H 49 06-01-2020 00:00 - 06-01-2020 00:00 **Grej:** Bundtrawl med skovle
Position: EF - EF ØRESUND - ØRESUND
\- -

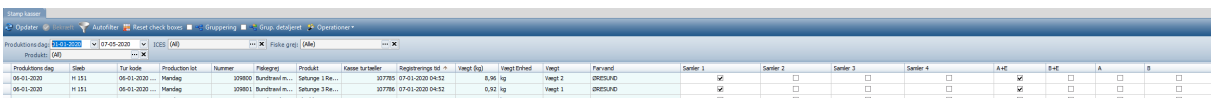
Art	Nom. ks.	Slant ks.	Vægt	Str.	Produkt	Kvalit.	Nom. Vægt
Rødspætte	2	0	60,00	4	Rødspætte 4	A+E	30,00
Total	**2**	**0**	**60,00**				
Slæb Total	**2**	**0**	**60,00**				

Slæb: H 151 06-01-2020 00:00 - 06-01-2020 00:00 **Grej:** Bundtrawl med skovle
Position: EF - EF ØRESUND - ØRESUND
\- -

Art	Nom. ks.	Slant ks.	Vægt	Str.	Produkt	Kvalit.	Nom. Vægt
Rødspætte	3	0	90,00	4	Rødspætte 4	A	30,00
Rødspætte	1	0	30,00	4	Rødspætte 4	B	30,00
Total	**4**	**0**	**120,00**				
Slæb Total	**4**	**0**	**120,00**				

New pack stamping user interface added

A new Pack stamping user interface was created.



Innova 5.9.2 Release Notes

The new user interface item has configurable columns for Collector and Quality, and filters for Production day, Waters, Fishing gear, and product where each box can be stamped with a collector and a quality.

Innova 5.9.2 Release Notes

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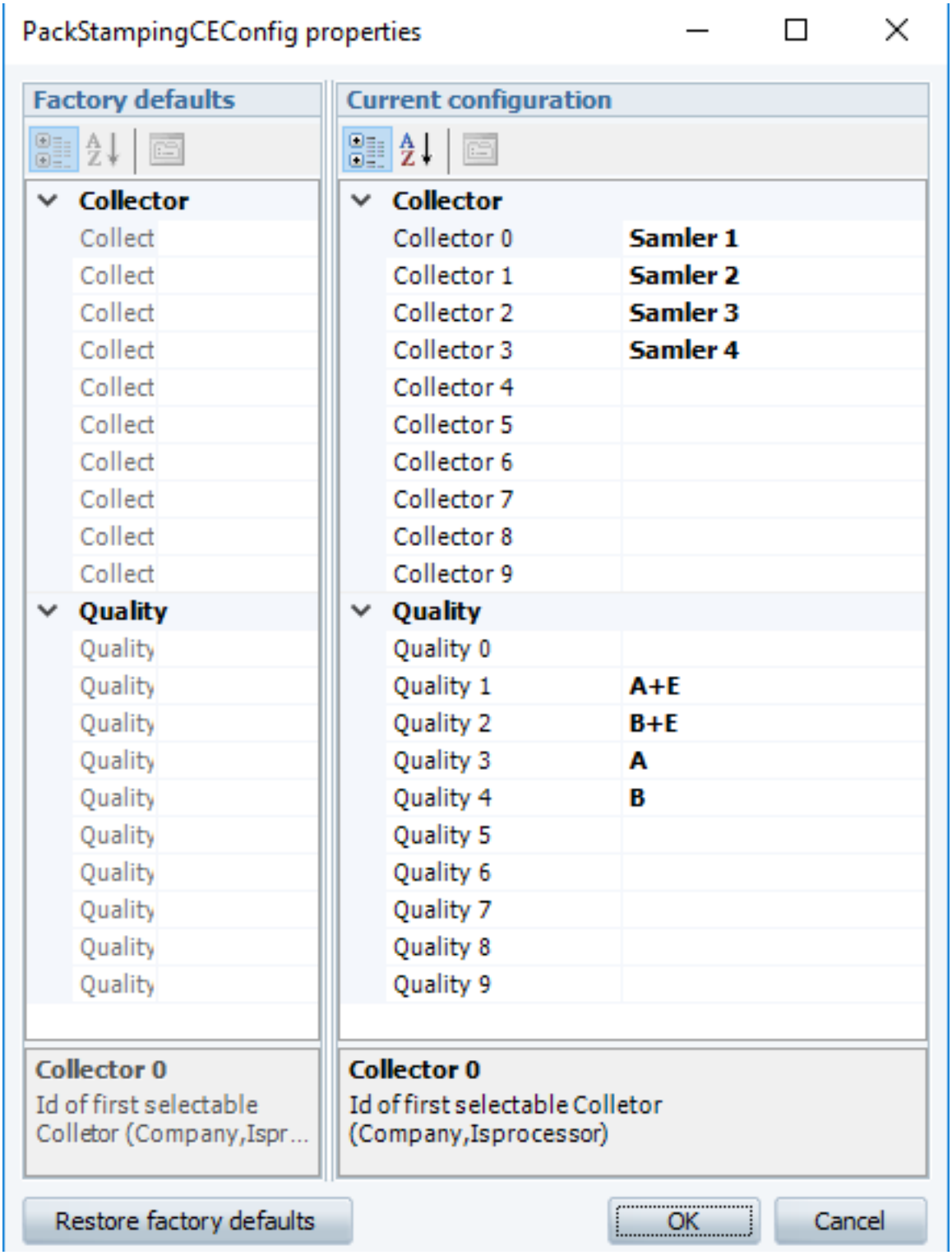
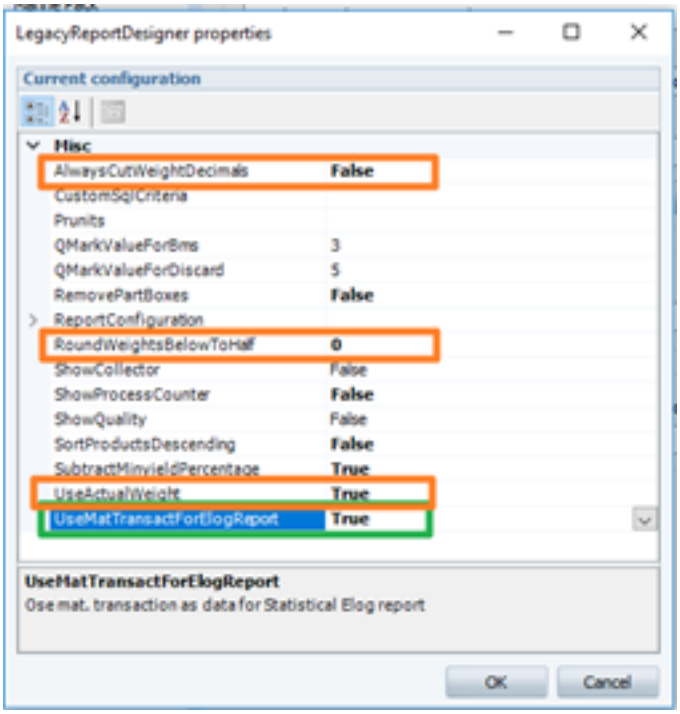


The Auction and Payment report has been updated to show stamping information.

New Statistical E-log report created

A Statistical E-log report showing material transactions has been created. The report must be installed in the user interface as a Cargo report, and the configuration must be set as shown below to create the Statistical Elog report.



Name	Description
UseMatTransactForElogReport	If true the reports weight data is taken from summed material transactions per box (pack), else the weight data for the Stat. Elog is taken from the pack data (this is the statistical Elog report based on packs alone).
AlwaysCutWeightDecimals	If true the decimals is cut from the weighings (no rounding) per box, else the stand. Yield is added to the weight.
RoundWeightsBelowToHalf	All weight below this are rounded to nearest .5 if zero this feature is disabled.
UseActualWeight	If true the actual weight from the matxacts is used, otherwise nominal weight is used.

The report with material transactions is the same as the Elog report except there are more grouping options (Trip, Product and Single boxes).

An example with all grouping on is shown below:

Statistal ELog (mar.trx)

Date: 26-03-2010 - 26-03-2020
Gruppér efter tur, Gruppér efter slæb, Gruppér efter produkt, Gruppér efter enkelt kasse

Tur: 26-06-2019 Marel_test 26-06-2019 - 26-06-2019 HANSTHOLM (DKHAN) - HANSTHOLM (DKHAN)

Slæb: 1 Marel_test 26-06-2019 11:55 - 26-06-2019 11:55 **Grej:** to travl

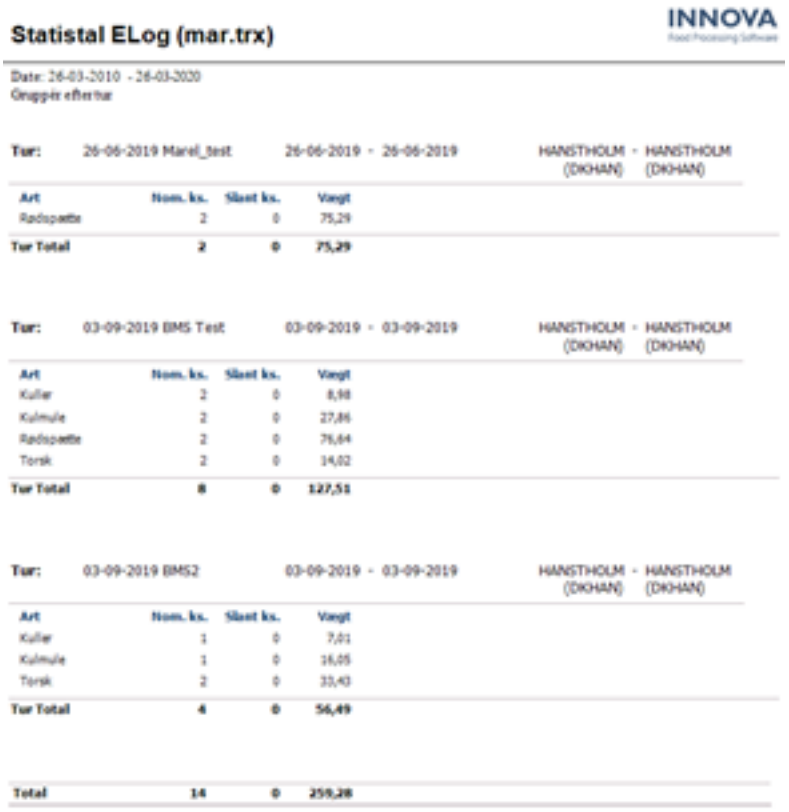
Position: EF - EF CENTRALE NORDSØ - CENTRALE NORDSØ
42/F8 - 42/F8 056°42'12"N, 008°13'36"E - 056°42'12"N, 008°13'36"E

Art	Nom. ks.	Slået ks.	Vægt	Str.	Produkt	Nom. Vægt	Kasse id
Radiopætte	1	0	37,59	4	Radiopætte 4: 0,15 - 0,3 kg	35,00	1
Radiopætte	1	0	37,70	4	Radiopætte 4: 0,15 - 0,3 kg	35,00	2
Total	**2**	**0**	**75,29**				
Slæb Total	**2**	**0**	**75,29**				
Tur Total	**2**	**0**	**75,29**				

And in this example grouping is done by trip:

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software



Statistal ELog (mar.trx)

INNOVA

Date: 26-03-2010 - 26-03-2020
Gruppér efter tur

Tur:	26-06-2019 Marel_test	26-06-2019 - 26-06-2019	HANSTHOLM (DKHAN) - HANSTHOLM (DKHAN)

Art	Nom. ks.	Slået ks.	Vægt
Radspætte	2	0	75,29
Tur Total	**2**	**0**	**75,29**

Tur:	03-09-2019 BMS Test	03-09-2019 - 03-09-2019	HANSTHOLM (DKHAN) - HANSTHOLM (DKHAN)

Art	Nom. ks.	Slået ks.	Vægt
Kulir	2	0	8,98
Kulmule	2	0	27,86
Radspætte	2	0	76,64
Torsk	2	0	14,02
Tur Total	**8**	**0**	**127,51**

Tur:	03-09-2019 BMS2	03-09-2019 - 03-09-2019	HANSTHOLM (DKHAN) - HANSTHOLM (DKHAN)

Art	Nom. ks.	Slået ks.	Vægt
Kulir	1	0	7,01
Kulmule	1	0	16,05
Torsk	2	0	33,43
Tur Total	**4**	**0**	**56,49**

Total	14	0	259,28

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

Meat Performance Line (MPL)

Improvements made to Expected vs Actual report and Simulation comparison

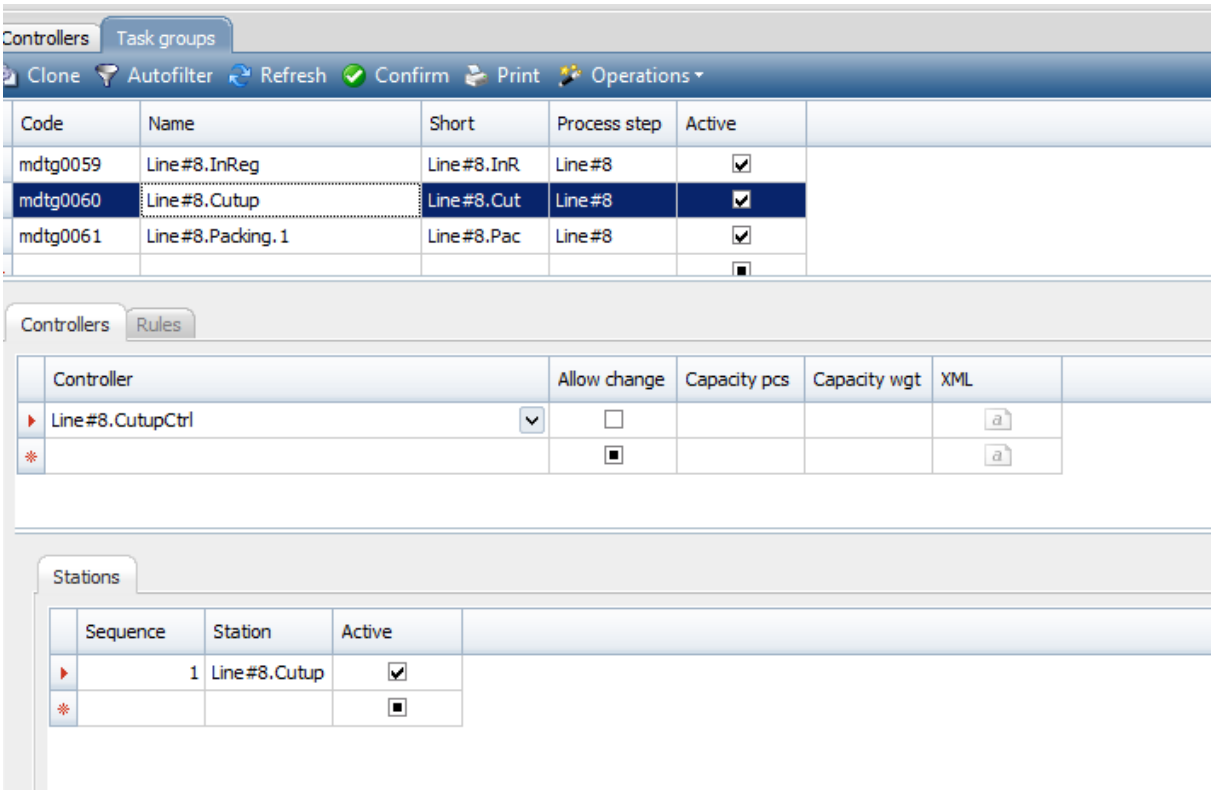
Several things were improved in the Expected vs Acutal report including:

- Changed look of header in ExpectedVsActual report
- Fixed a bug in data retrieval
- Grouped order section in simulation comparison by order.

MPL Quick Config improved

MPL was released in 5.9.1 and some improvements have been made in this release to the Quick Config, including:

- The MPL Quick Config menu item comes standard in Innova.
- If simulation is checked a new system is created which runs side by side. The simulation runs as a separate application in the User interfaces so that data doesn't flow between the simulator and the Production part of the solution.
- Too many taskgroups were created. The simulator uses the same taskgroups as the production application. This means that there is one Task group for Inreg and two controllers (one for production and one for system), and one task group for Cutup and two controllers.



- Quick config activates process units and devices in the routers, and starts the programs.
- After the menu installation the menu is now activated.
- The Deboning program created by Quick Config is now activated on the Deboning process unit (and simulator process unit).
- In the Scale setup section of the Quick Config, IP address fields were missing for the scales. They have been added for packing stations and the inreg scale. An mp5router is also attached to the scales and activated.
- In the Inreg setup section of the Quick Config a Bluetooth barcode reader has been added to the InReg station by default.
- Packing stations are always sold with an Intermec printer. A printer with IP address has been created and attached to the packing station; there is a field for the IP address. The printer is also attached to a router and activated.
- For the Packing station IPC, the XML for the AccumulationStationCE was missing the system ID. Additionally, the appearance default text on the packing station IPC buttons has been improved.
- Input products now have 100% standard yield and 50% (side).
- Automatic lot creation rules now use CounterPrunitPrday instead of the Counter. This applies to all automatic lot creation rules.

- The dashboard component is installed into the Billboard WinUI along with OrderControl. If the customer is running with two packing stations, there are two dashboards and one billboard WinUI.

MPL monitor dashboard component fixed

The MPL Monitor dashboard component would sometimes throw an exception. This was due to it looking for a dictionary which wasn't used or necessary. This has been corrected.

Simulations form improved

The Simulations form now has current day as SimulationDay by default when a new row is created.

The progress bar in the Simulations form sometimes behaved strangely. This has been fixed.

And an issue with server side piece sync on new automatic lot has also been fixed.

Packing Accumulation Station not updating

The value of deboning items is not updated when a piece is weighed on the PackingAccumulationStation. Now DbItem.Value is updated according to weight.

Cutting pattern editor improvements

The cutting pattern editor sometimes crashed when quickly changing between nodes. This has been fixed.

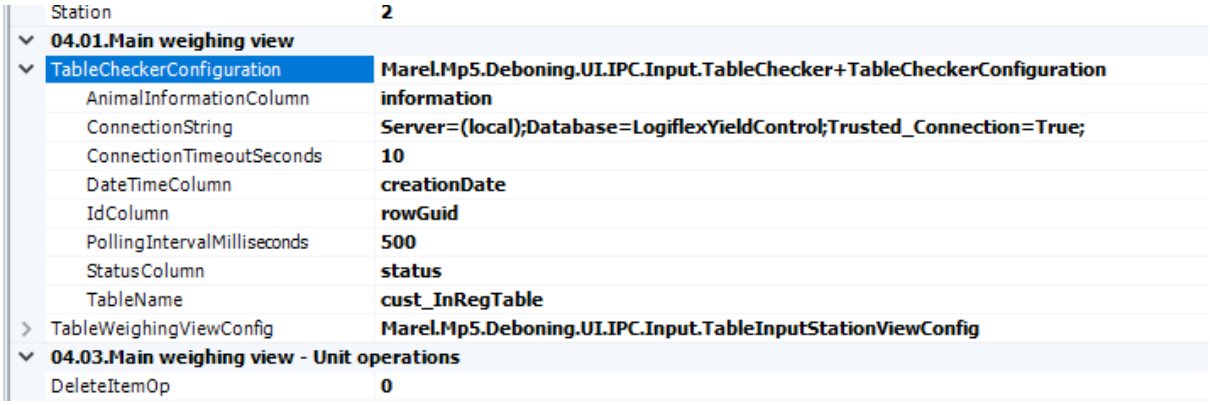
Also, the Enable Verification property is now enabled by default.

Innova 5.9.2 Release Notes

Meat Streamline

TableInputStationCE created

A new input station was added in Deboning, TableInputStationCE. It behaves exactly like FileInputStationCE except that instead of fetching incoming animals from a file it fetches animals from a specific table in a database. The database connection and table is configured in the IPC, so the IPC must have access to the table. The configuration for the connection and the table must be configured similar to the figure below:



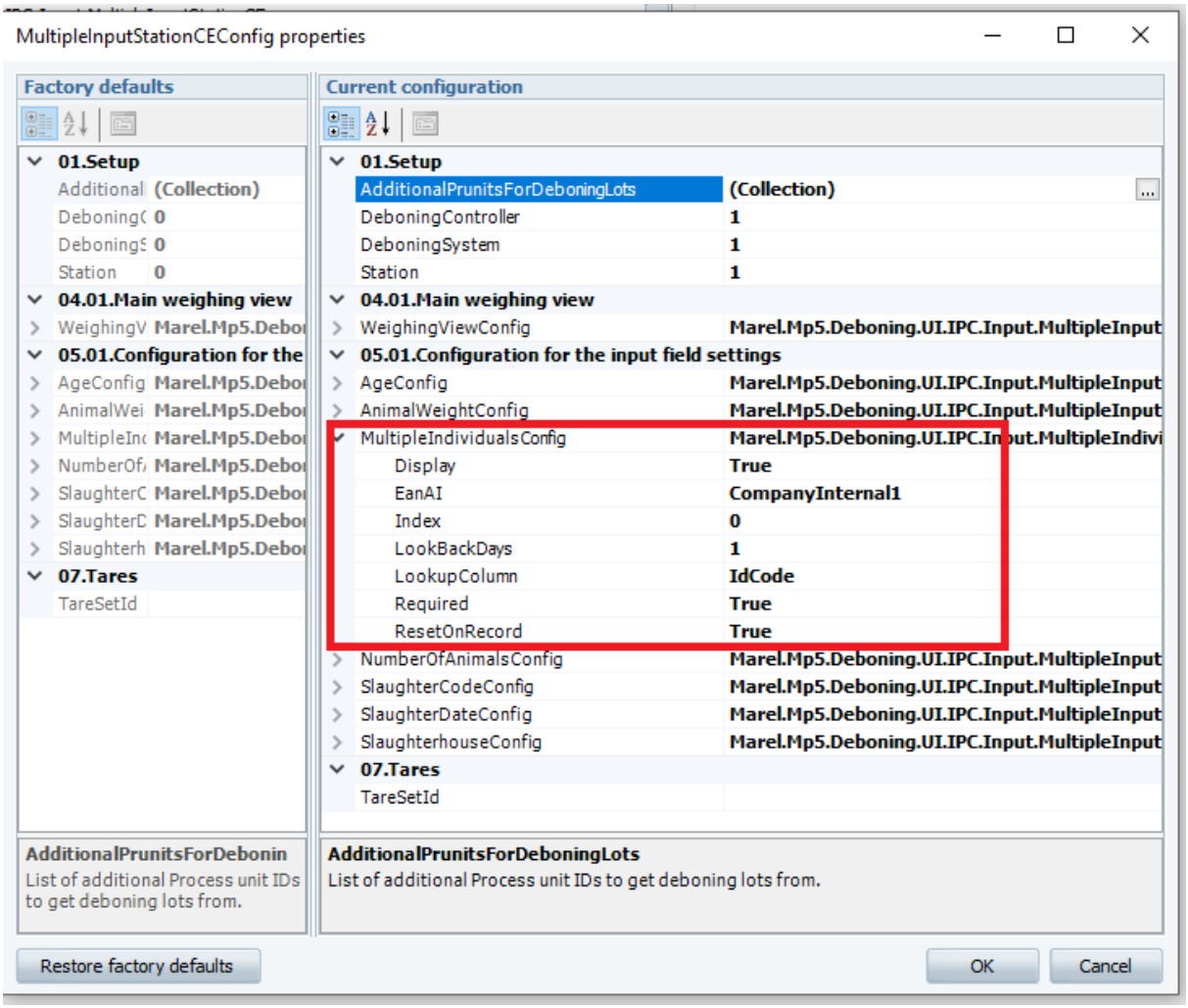
Information about the settings can be found in the *Innova Deboning IPC User Manual*.

Improvements made to MultipleInputStation

A new configuration property, **BarcodeProfile**, has been added to configure the barcode profile in MultipleInputStationCE. If a barcode profile is set it overrides the default barcode interpreter.

A new input field for multiple individuals for MultipleInputStationCE has been added. It only accepts input from scanning. When scanning, the input field is updated with the number of scanned animals. The CreateItems operation is then executed for each animal and the items created are linked to the animal.

The field can be configured with the ability to configure the lookup column (LookupColumn) in the individual table and the number of slaughter days to filter on (LookBackDays).



Note that **NumberOfAnimalsConfig** has higher priority than **MultipleIndividualConfig**, so that should not be active or have a default value.

Improvements added to Input web terminal

New functionality was added to Web Socket server so that it supports the infeed function on Streamlines. M2200/Rt220 input station functionality has been added to web terminals to support input stations.

When this was done, some improvements were made, including:

- Deboning Input web terminal now uses the Station Input process
- The loading screen for the Cutup task, Select piece, Input item websocket page was changed
- Display changes were made to the Cutup task, Input item and Select pattern screens. Also, the user can now automatically go back to the pattern screen after recording an item on the input screen.
- Improvements were made to the Select pattern screen and Status messages.

Cancel started pieces on Deboning workstation

By changing the configuration, it is now possible to cancel started pieces on deboning workstations. The configuration property is **DeleteStartedPieces** in Marel.Mp5.Deboning.UI.Windows.Production.StationUnits. If true, the delete operation also deletes started pieces. The task will be abandoned and the piece removed.

If this configuration property is false, and the user tries to cancel started pieces, then the user will be notified that it is not possible.

Cutting pattern editor improvements

The cutting pattern editor sometimes crashed when quickly changing between nodes. This has been fixed.

Also, the Enable Verification property is now enabled by default.

Innova 5.9.2 Release Notes

Monitoring

Option to refresh web dashboard components added

A configuration property, UseBrowserReload, was added to dashboard web components in the dashboard system.

If true, instead of using the defined component's Refresh method, the web component reloads itself/reinitializes as a browser reload does. If false, the component's refresh method is used. Both refresh methods have the same effect and give the same results: the component is updated with its latest data. The default setting is false.

Dashboard query components support ReportingSystem and ReadUncommitted

Dashboard Query Components now support custom reporting system and read uncommited code.

Affected dashboard components are:

- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Charts.QueryChart
- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Queries.Linked.LinkedQueryTable
- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Queries.QueryLabel
- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Queries.QueryRequest

The following configuration properties were added for all components:

- ReportSystem: The ID of the system that should be used to get data for this dashboard component
- ReadUncommitted: Run queries in isolation mode read uncommitted.

The configuration properties have also been added to the Report Page in the PDA configuration.

IMPAQT primary dashboard improved

Several improvements were made to the IMPAQT Primary dashboard:

The IMPAQT Primary dashboard now uses the text Live Bird Handling instead of Life Bird Handling.

Configuration settings have been added for ATLAS general info data. For example, insights about how many trays are being processed are shown on the Primary dashboard. Data is presented per hour and per minute because the CAS system can display both.

In the current implementation of the Primary dashboard there is a message when the plug-in/ATLAS system is not running or when the plug-in or ATLAS system has not been configured. However, when a device configured for an OEE Line plug-in or a device in the Atlas device list is online, no message is shown to the user. To fix this, the .NET Remoting interface needs to be started as one of the first things in line. Also, a new method was made that sends data to the dashboard which informs the user that a device is offline.

In preparation for the upcoming new platform, the Primary Dashboard can now get data from PDC devices.

A bug causing the poultry Primary dashboard component not to be refreshed when a plug-in reconnected was solved.

Additionally, refreshing a web dashboard component in the dashboard editor now works correctly after a dashboard property is changed.

Primary plug-in reconfigures itself if one of the OEE line plug-ins is restarted

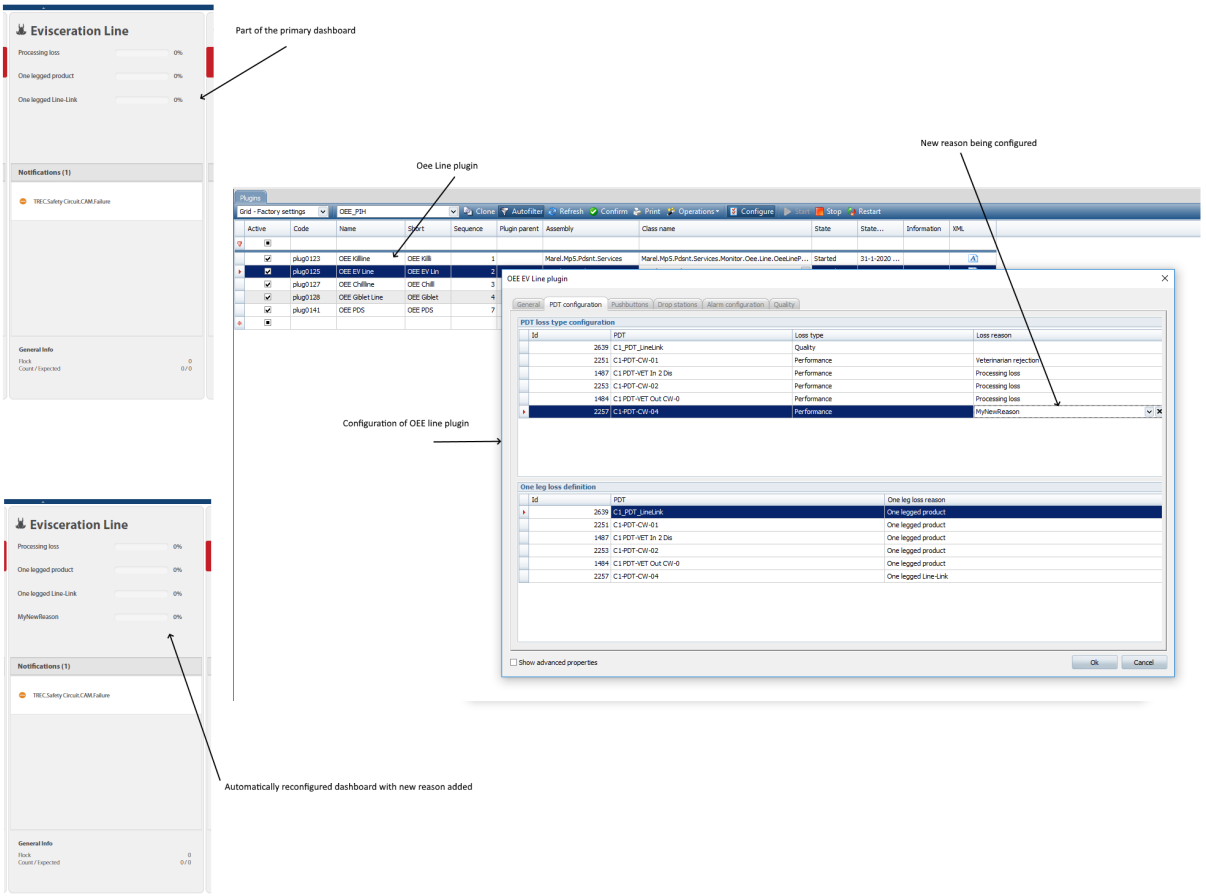
The Primary dashboard for poultry lines shows live performance figures for certain losses in the line and uses the configuration of OEE line plug-ins to extract the possible reasons to show in the dashboard. Behind the dashboard, a Primary dashboard plug-in is running that collects the data.

When the Primary dashboard plug-in is configured for the first time, the user must select the reasons that should be extracted from the OEE line plug-in and shown in the dashboard.

However, when the OEE line configuration was changed, for example, a new reason was added, the Primary dashboard plug-in could not extract it and had to be manually reconfigured to show the change on the dashboard.

Now the Primary dashboard plug-in checks at one-minute intervals to see if the OEE line plug-in was restarted. If so, the plug-in configuration updates automatically by checking which reasons were added or removed. It then shows newly added reasons on the dashboard by default and removes reasons that were removed in the configuration.

The Primary dashboard plug-in then re-initializes the line that is displayed. By doing so, the OEE alarms that are reconfigured in the OEE line plug-in are then used in the Primary dashboard plug-in. (The Primary dashboard plug-in also extracts the configuration data from the OEE line plug-in to display notification messages for alarms.)



If the OEE line configuration changes and a reason is selected that is already in use in the OEE line configuration but is not visible in the Primary dashboard, then the newly selected reason will not become visible automatically.

In the example above, the veterinarian rejection reason is already configured. If it were configured again for the last PDT instead of MyNewReason, it would not be made visible because it was already not visible.

Innova 5.9.2 Release Notes

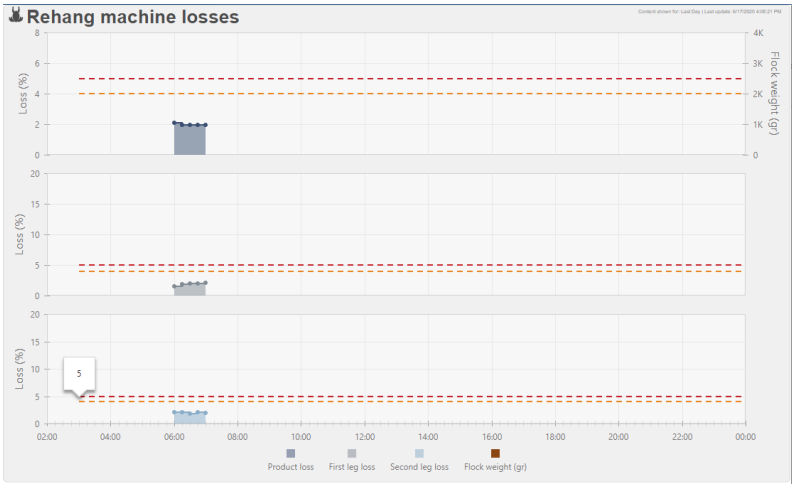
Rehang dashboard components improved

Several small issues were improved in the Rehang Unit performance dashboard component and the rehang machine dashboard component.

Previously, when the legend, axes and other chart elements were smaller than approximately 400 pixels in height, the chart became hidden. This has been fixed and the appearance of the chart has been improved by changing the sizing of the chart elements. Note that readability may become an issue as these elements get smaller.

A script error that occurred when a component was dragged onto the dashboard editor surface area has been fixed. When a component was added to the dashboard editor area and a plug-in setting was selected for it in Properties, the component refreshed but did not show initial plug-in data. Now the page cache has been fixed so that the configuration is not overwritten in the cache. This fix applies to all dashboard web components.

The images show some examples of the resized components. As stated previously, if a component becomes too small, it may not be readable. It's up to the user to decide on what size is still acceptable.



The configuration of the mean weight for the Rehang Performance dashboard has been changed. It is now possible to select a PDSNT-PDA device to get the weight via the PDA Collector, or to get the weights via the PDC Collector. In the latter case, an SND device must be selected and the property **Use PDC data** must be set to *True*.

Also, the width of the title placeholder for all of the rehang dashboards has been increased. It was previously set to 25% of the available space. Now it is 95% which will enable support for longer dashboard titles.

Improvements made to Device alarm report

Some improvements were made to the Device alarm report:

- Duration on the axis below the graph is written in whole hours if the range is larger than 6 hours. Between 1 and 6 hours it is written as hh:mm, and if below 1 hour it is written as hh:mm:ss.
- In the graph the number of alarms shown has been reduced to ensure that labels are shown for all. Previously 20 alarms were shown. This is reduced to 17. The "not shown" are summed under **Other alarms**.
- The order of bars per alarm has been switched. Occurrence is shown first, then duration.
- The table and the graph use the same font (Tahoma).
- The sorting of date will be Occurrence, and then Duration. Those with the same number of occurrences will be sorted after duration.
- The report now fits on US Letter size paper as well as A4.
- The report includes all alarm events that were active at any point during the selected period.

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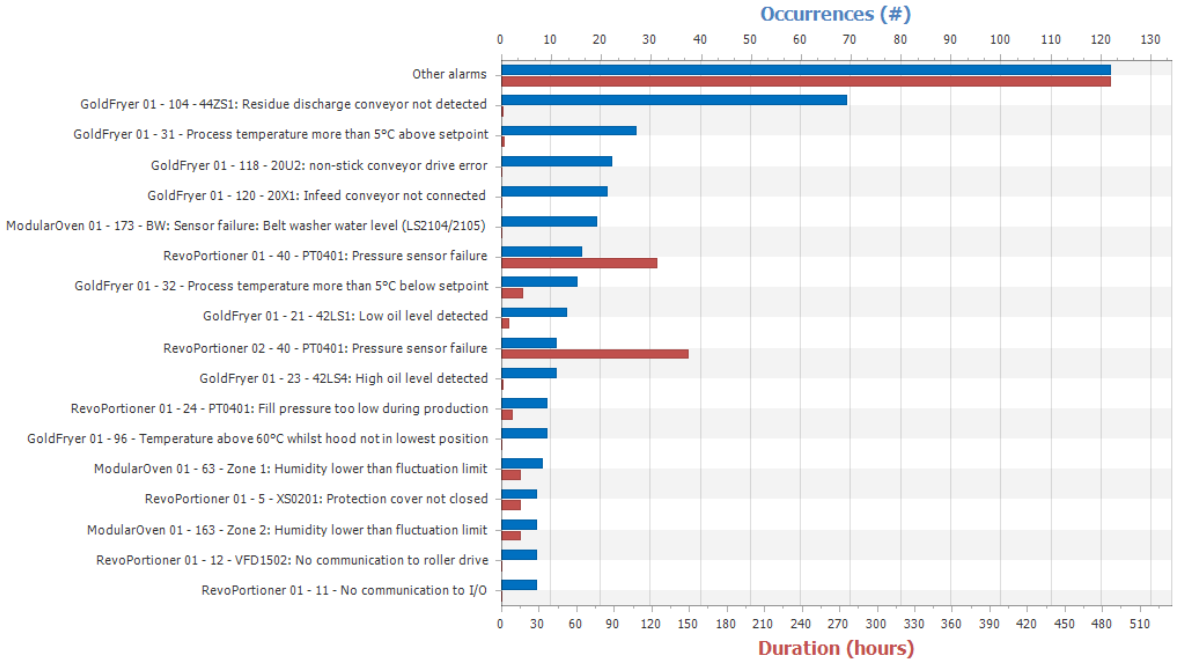
Device alarm report (standard)

Date:31-01-2020 - 07-02-2020

All devices



18-05-2020 12:53
Page 1

Device alarm report (standard)

Date:31-01-2020 - 07-02-2020

Device	Alarm code	Alarm level	Description	Total duration	Occurences
			Other alarms	486:33:26	122
GoldFryer 01	104	Fatal	44ZS1: Residue discharge conveyor not detected	0:28:32	69
GoldFryer 01	31	Error	Process temperature more than 5°C above setpoint	1:49:08	27
GoldFryer 01	118	Fatal	20U2: non-stick conveyor drive error	0:00:34	22
GoldFryer 01	120	Warning	20X1: Infeed conveyor not connected	0:11:27	21
ModularOven 01	173	Error	BW: Sensor failure: Belt washer water level (LS2104/2105)	0:01:24	19
RevoPortioner 01	40	Fatal	PT0401: Pressure sensor failure	124:17:37	16
GoldFryer 01	32	Error	Process temperature more than 5°C below setpoint	16:51:56	15
GoldFryer 01	21	Error	42LS1: Low oil level detected	5:15:21	13
RevoPortioner 02	40	Fatal	PT0401: Pressure sensor failure	148:47:00	11
GoldFryer 01	23	Error	42LS4: High oil level detected	0:41:44	11
RevoPortioner 01	24	Fatal	PT0401: Fill pressure too low during production	8:05:15	9
GoldFryer 01	96	Fatal	Temperature above 60°C whilst hood not in lowest position	0:20:37	9
ModularOven 01	63	Error	Zone 1: Humidity lower than fluctuation limit	14:26:57	8
RevoPortioner 01	5	Fatal	XS0201: Protection cover not closed	14:49:41	7
ModularOven 01	163	Error	Zone 2: Humidity lower than fluctuation limit	14:24:20	7
RevoPortioner 01	12	Fatal	VFD1502: No communication to roller drive	0:00:35	7
RevoPortioner 01	11	Fatal	No communication to I/O	0:00:35	7

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

Crash when multiple Alarm monitor components included in dashboard

It was not possible to create a dashboard page with more than one Alarm Monitor dashboard component or containing several pages with an Alarm Monitor on each page. This has been fixed.

Dashboard viewer fixed

When **Can open multiple instances** was selected in User Interfaces the user was not able to open multiple instances. This has been corrected.

Equipment monitoring OEE Quick Config optimized

When the OEE Quick Config is executed, the pluginhost and plug-ins are installed at the last stage of the process. The OEE manager needs a minimum delay of 20 seconds when the pluginhost is installing. If this delay time is shorter, there is a risk that the plug-ins will not start because the OEE manager is not yet initialized.

With the new functionality implemented, the delay time needed to ensure that the OEE manager is initialized is automatically calculated. There are two scenarios:

1. The new plug-in host will run under the same program manager as the OEE manager. In that case it is counting all system programs that are available after the OEE manager and sums their executewait time.
2. The plug-in host will run in another program manager with the OEE manager as its program manager. In that case the time in front of the OEE manger needs to be extracted from the total execution delay of the program manager that the plug-in host will run in.

SensorX web dashboards give an error when being viewed in WinUI

The SensorX web dashboard gauge components were missing implementation for callback error. This is now added to all four components. The fix is in version 5.9.1 and higher.

MsgAlarm class bug fixed

A fix was made for the MsgAlarm class used by Equipment Monitoring. A situation was discovered where a PLC system sent an alarm message with a parameter value as string. But there was a bug that was trying to convert that string value to an integer. This threw an exception resulting in a situation where the alarm message was not processed by Innova and thus not shown on dashboards or reports. The change that was made is that it is con-

verted to a string value to give the correct result. The changes are merged back to version 5.9.1 where this bug was first introduced.

Alarm dashboard columns not properly translated

A bug was fixed where the description of the alarms in the alarms dashboard were not translated properly.

Monitoring alarm plug-in improvements

Alarm plug-in retrieves latest status before comparision

Within Equipment monitoring an alarm plug-in instance checks the state of the control system (PLC / TAP) and its active alarms. When this feature is enabled the plug-in asks the control system to send its list of active alarms to the plug-in so it can check that no alarm messages have been missed.

Previously, in order to check if an alarm was still active, a list of active alarms was used. However this active alarm list is not updated with the latest status before the comparison is made. Therefore alarms could be missed that won't be deactivated on the plug-in.

To solve this, the latest state is now fetched from the database before active alarms are processed so that the current alarm state is known before new active alarms are processed.

This is in versions 5.8.2 and higher.

TAPAlarmNotification plug-in AUX support

The TAPAlarmNotification plug-in allows the user to pair an Innova alarm with a specific Aux in PDS-NT. In PDS-NT every configured line can have in its configuration a max of 6 Aux. When the plug-in starts, it creates a device proxy connection to the user-selected TAP device. It then subscribes to the Innova alarm notification system. When the plug-in is notified of an alarm, it sends a message to the TAP, telling it to enable or disable the paired Aux for that line.

Alarm list empty when TAP plug-in selected

A bug has been fixed in the State tile dashboard for tiles of the LineAlarmsPlugin. When the user navigated to the alarm history list, this list was empty. The LineAlarmsPlugin is a plug-in variant of the Alarmgroup plug-in. It automatically creates an alarm group for a line being monitored in a Tap alarms plug-in and starts monitoring the alarms in that group.

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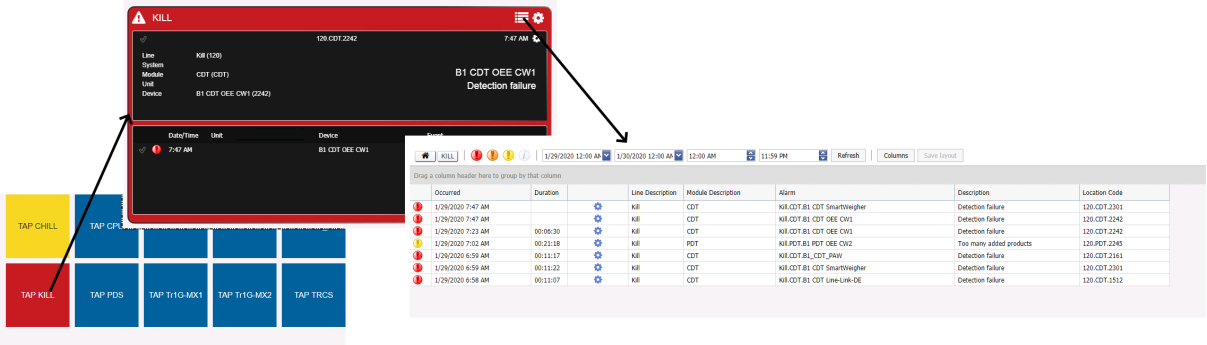


Incorrect alarm time displayed

If an alarm was active and the alarm event was removed from database (maintenance), the lastupdate column would be used as the alarm time instead of the alarmoccured column in base_alarms. This is now fixed.

Parameter value of the alarm is not displayed in every view

Within Equipment monitoring, alarm parameters can be used in order to better clarify an alarm that has occurred. An example is that a runtime or sensor ID is given as an alarm parameter, but sometimes the parameter was not displayed correctly. This has been changed so that the parameter value is resolved when the alarm plug-in is getting the active alarms from the devices. Furthermore, a bug was fixed in the msgAlarm implementation which did not resolve the alarm parameters correctly.

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

MultiHead Weigher

Process Unit Overview with Rejects report fixed

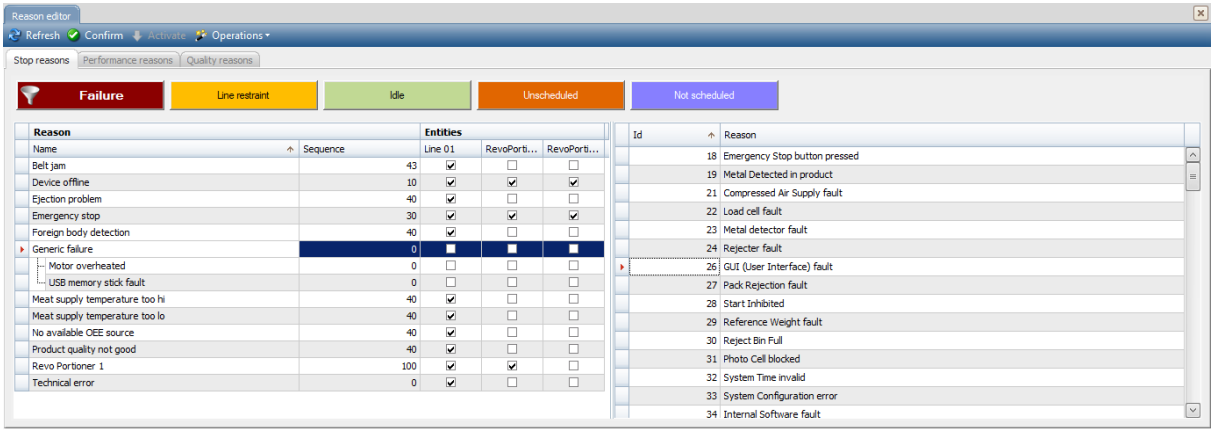
The Process Unit Overview with Rejects report showed weight in kilograms (kg) even when the weight was in pounds (lbs). The report has been updated to show the correct weighing units when the Innova system uses imperial units.

Innova 5.9.2 Release Notes

OEE

Reason grouping improved

A new editor for reasons (stop/performance/quality) has been created, Marel.Mp5.Process.UI.Windows.Oee.OeeEntitiesReasonEditorCE. In this form the user can add and remove reasons as well as group reasons for all visible entities.



The form consists of a tree view with assigned and/or grouped reasons for entities, and a list of unused reasons. There are three tabs: Stop reasons, Performance reasons, and Quality reasons.

When viewing Stop reasons, there is a set of filter buttons for OEE status; the buttons are colored with the default OEE color. For Performance and Quality reasons the filters are the reason usage mode, either Manual or Automatic. The selected filter is marked on the button with a filter icon. **Automatic** means that the reason can only be applied automatically by Innova. **Manual** means that the reason can be applied manually by the operator as well as automatically by Innova.

Drag and drop reasons from the list on the right to the left to create a list for the selected reason or filter. The user must drag and drop one reason to be the parent reason then add more reasons below it.

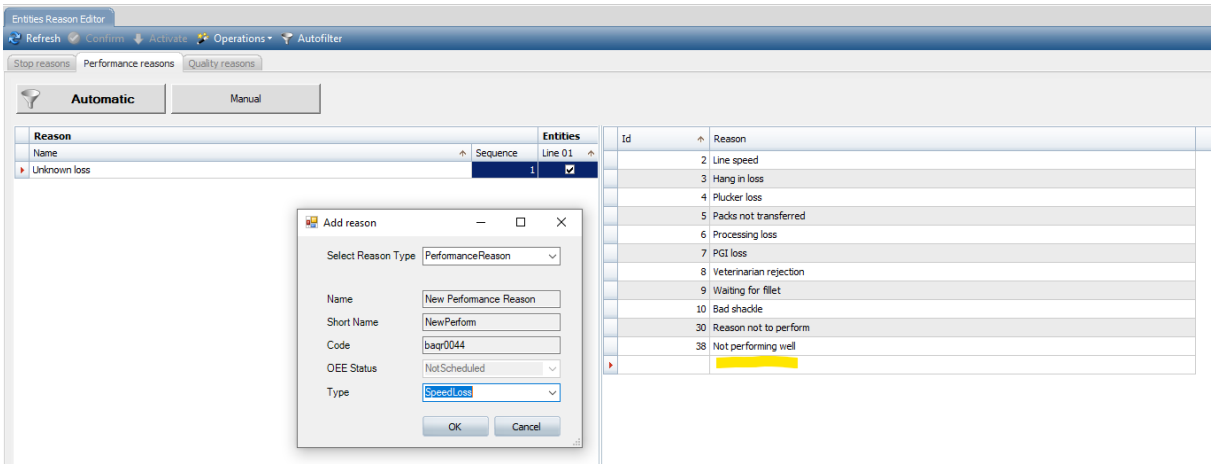
Select the entities to which the reason applies using the checkboxes to the right of the reason.

Use the Up and Down arrows next to the reason to customize the order of the list of reasons.

The Confirm button is enabled when changes are made, and when changes are saved, the Activate button will be enabled. The Activate button sets the changes on the entities. A set of warning dialogs for unsaved/invalid data appears if a user action (Confirm/Refresh) moight cause changes to be lost.

Add new reasons from the editor

The user no longer has to switch between forms to add new reasons. There is a dialog to insert new reasons from the Entities Reason Editor. Click on the empty row on the right side of the form to open the dialog:



The full hierarchy/grouping of stop reasons, quality reasons and performance reasons is shown in the standard Entities form.

Entities

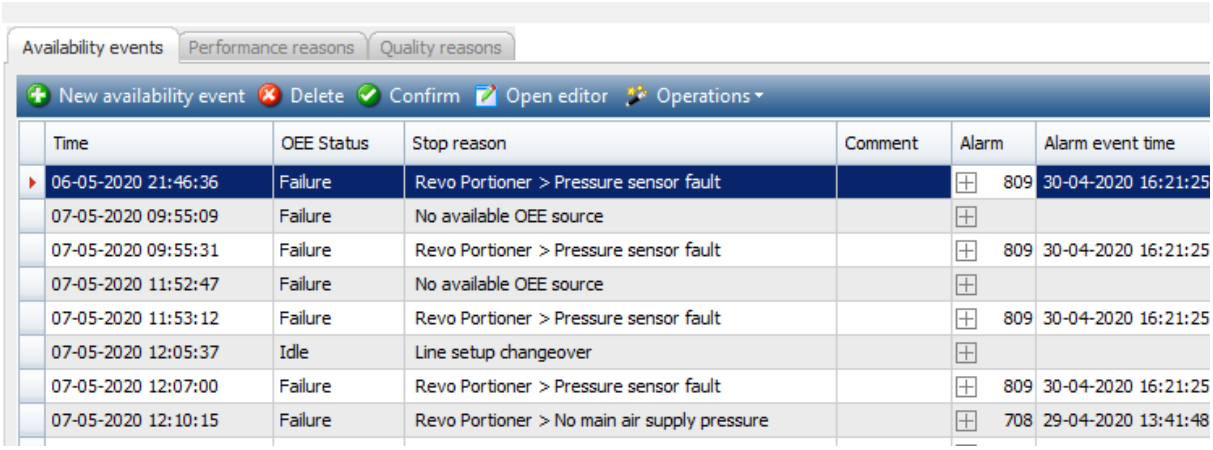
Clone | Autofilter | Refresh | Confirm | Print | Operations | Configure

Id	Process unit	Availability target min	Availability target max	Performance target min	P
1		80	100	60	
2	OEE Device...	90	95	90	
3	I-Cut 130	90	95	90	
4	Inweighing	80	100	60	

Stop reasons | Performance loss reasons | Quality loss reasons | Signal map | Signal descriptions | Alarm stop

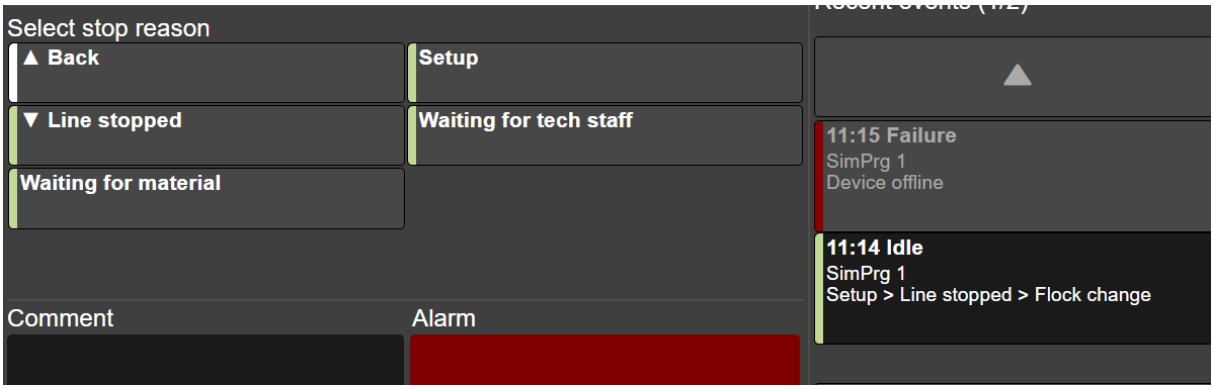
OEE Status	Sequence	Stop reason
Idle	0	Setup
Idle	0	Line stopped -> Waiting for staff
Idle	1	Line stopped -> Waiting for tech staff
Idle	0	Setup -> Waiting for material
Not schedu...	0	Scheduled break
Not schedu...	1	No production
Unscheduled	0	No orders
Unscheduled	1	Maintenance
Unscheduled	2	Testing
Line restraint	0	Line restraint in
Line restraint	2	Line restraint out
Failure	0	Device offline
Failure	1	Generic failure
Failure	2	Emergency stop
Line restraint	1	Line restraint in

The full hierarchy of stop reasons is also displayed in the Office OEE Event Editor. In each of the tabs for Availability, Performance, and Quality events, the user will see the full reason.



Time	OEE Status	Stop reason	Comment	Alarm	Alarm event time
06-05-2020 21:46:36	Failure	Revo Portioner > Pressure sensor fault		809	30-04-2020 16:21:25
07-05-2020 09:55:09	Failure	No available OEE source			
07-05-2020 09:55:31	Failure	Revo Portioner > Pressure sensor fault		809	30-04-2020 16:21:25
07-05-2020 11:52:47	Failure	No available OEE source			
07-05-2020 11:53:12	Failure	Revo Portioner > Pressure sensor fault		809	30-04-2020 16:21:25
07-05-2020 12:05:37	Idle	Line setup changeover			
07-05-2020 12:07:00	Failure	Revo Portioner > Pressure sensor fault		809	30-04-2020 16:21:25
07-05-2020 12:10:15	Failure	Revo Portioner > No main air supply pressure		708	29-04-2020 13:41:48

Grouped stop reasons are also shown to the operator on IPC, WPL9000, and web event editor. When a stop reason is a parent to other stop reasons, the button will be indicated with a down arrow as Line stopped is in the figure above. Clicking the button will show all the stop reasons related to the selected reason. A Back button in white with an Up arrow can be used to navigate back.

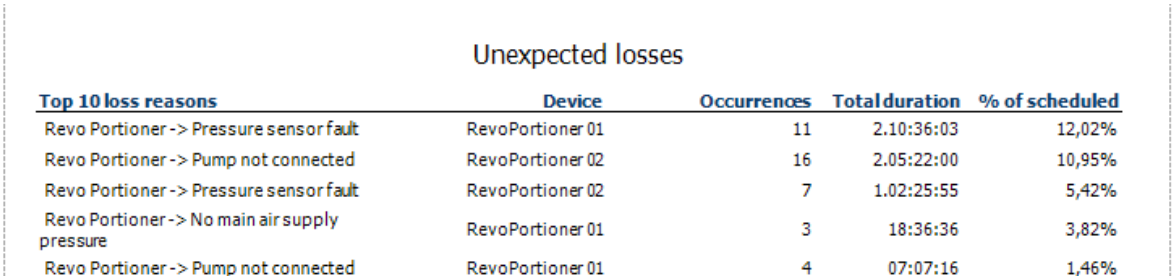


Reporting and dashboard reflect these changes

The OEE dashboard components Latest events, Stop reasons comparison, Stop reasons overview, and Top N reasons have been updated with a **Use short name for stop reason** property to show the full hierarchy of loss reasons.

The Availability overview, Loss reason histogram, Stop reason history, Stop reason timesheet, OEE details, and OEE Performance and Quality Loss History reports also show grouped reasons.

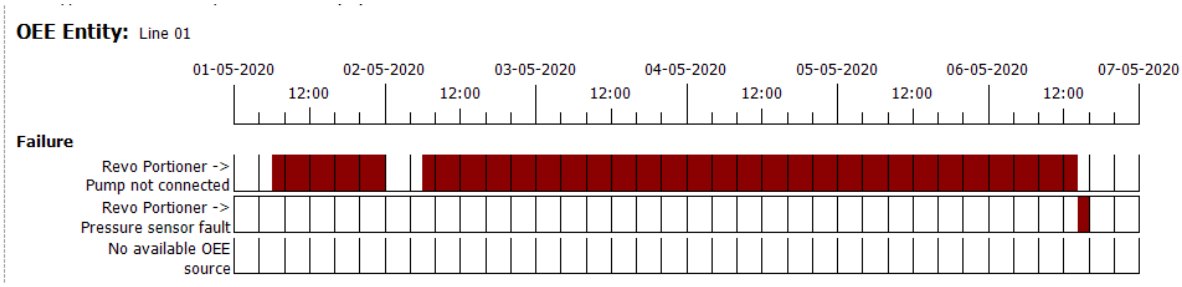
The Availability Overview Report:



Unexpected losses

Top 10 loss reasons	Device	Occurrences	Total duration	% of scheduled
Revo Portioner -> Pressure sensor fault	RevoPortioner 01	11	2.10:36:03	12,02%
Revo Portioner -> Pump not connected	RevoPortioner 02	16	2.05:22:00	10,95%
Revo Portioner -> Pressure sensor fault	RevoPortioner 02	7	1.02:25:55	5,42%
Revo Portioner -> No main air supply pressure	RevoPortioner 01	3	18:36:36	3,82%
Revo Portioner -> Pump not connected	RevoPortioner 01	4	07:07:16	1,46%

The Stop Reason timesheet report:



Technical information

To support these changes, some refactoring was done. The criteria listed below had an SQL update to make use of the scalar function to retrieve a reason name including the parent reason.

- oeeperfloss
- oeequalloss
- oeeavailabilityloss
- oeeperfloss2
- oeequalloss2

The base_criterias.xml loader file was adapted to include these changes.

New scalar functions were added to the database to display the full hierarchy/grouping of names for stop reasons, quality reasons and performance reasons. They are:

- base_performancereasonfullname
- base_stopreasonfullname

- base_qualityreasonfullname

Improvements to OEE Production Monitoring

Two new properties have been added to running performance and quality measurement, which is configured in the Entities form. They affect the appearance of the OEE Production Monitoring dashboard component.

- **OeeMonitoringSamplingMethod**: Selects the sampling method used by the monitor window. The values can be TimeBased and RegistrationCountBased.
- **MonitorWindowRegistrationCounts**: Sets the number of registration messages in the monitor window. If the message is sent every 5 seconds, then the value should be 12 to get a monitor window of 60 seconds.

Current shift option added to dashboard components

The OEE dashboard components now have the option to show OEE Figures for the current shift on the OEE entity process unit. For dashboard components that show the current OEE values, the Time Period Type configuration now includes a Current shift option.

The components that can show current shift are:

- Latest Events
- OEE Availability View
- OEE Figures Scale
- Stop Reasons Overview
- Top N Losses components
- OEE Line Comparison
- OEE Label components

Those OEE dashboard components that compare values over a longer period have a configuration option, Comparison type, to select between comparing production days and the current shift.

With the current shift selected, the component will only show values for same shift as the current shift over the last day(s).

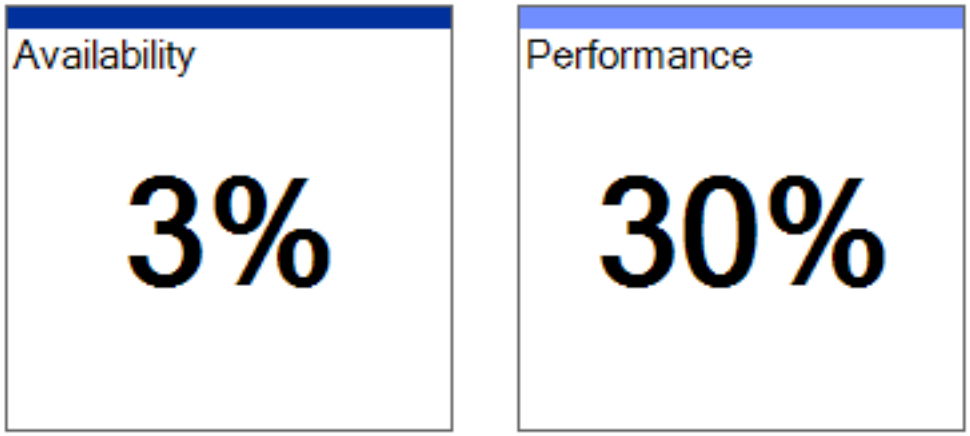
The components that compare values are:

- OEE Figures Bar Chart
- OEE Figures Line Chart
- Stop reasons comparison

For more information, see the *Innova OEE User Manual*.

Font size for OEE Figures labels components now consistent

The automatically calculated font size of OEE Figures Labels has been corrected to be consistent across all values for components of the same size, resulting in a cleaner look and feel.



Order of entities in reports can be customized

Previously the entities in OEE reports were ordered by their ID by default. Now there is a new column in the Entities form, Sequence number (sequencenr). This makes it possible to change the sequence number to order the entities in the OEE reports based on the desired sequence number. If no sequence number is filled in, then order is by entity ID in the reports. If only a part of the sequences are filled in, then sequence order is used first and those entities without a sequence number appear in order of entity ID.

This functionality applies to all reports where it is possible to select more then one entity instance.

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OEE added for M3000 G200 SpeedBatcher

Basic OEE support for M3000 G200 Speedbatcher devices has been added. There is no support for alarms. OEE can be added to existing SpeedBatchers using the OEE System Quick-Config. See the *Innova OEE Installation and Configuration Manual* for more information.

Other OEE improvements

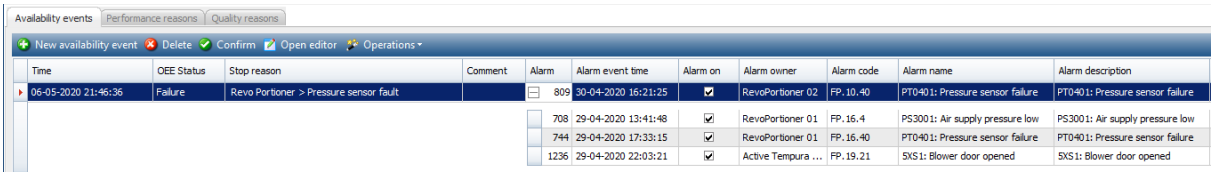
The header of the Availability overview report has been updated to include both Availability percentage and the running time.

The Program change report now includes all stop reasons. Previously, user-added stop reasons were not displayed in the configuration.

The line OEE dashboard showed that the running state had been ongoing for 6 minutes which would mean that at 14:34 the line was in idle, but the user could not see this in the Event editor. According to the Event editor the line had been running since 06:00. An issue was indentified and fixed where a state change in the OEE back-end (without changing the resulting OEE status) caused an incorrect timestamp in dashboard.

The OEE Event Editor remembers the column sorting when the user closes and reopens the form. Also, a bug was fixed that sometimes threw an exception when creating new stop reasons in the OEE Event Editor.

The Alarm code has been made visible in the OEE Event Editor so that the correct alarm origin can be more easily identified.



An issue was fixed where alarms from machines currently not available in the production line were being linked to the current OEE event.

A NullReference was fixed that meant the OEE profile generator was not able to run for Further Processing convenience lines.

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On the IPC Event Editor, performance losses that started before the event were included in the view. This has been fixed.

At several locations in the Innova user interface it is possible to define new OEE loss reasons. When a new loss reason was defined there was no check on the length of the descriptive name. This could lead to an unclear loss reason name since the database length is limited to 30 characters. This has now been corrected so that in all locations in the user interface where a loss reason can be defined there is a limit of 30 characters.

TestTool Simulators for GenericLine have been created to help with internal testing.

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

Packing

QC inspection support added to UltimateStation

QC Inspection support has been added to the UltimateStationCE. It opens a QC inspection panel for the inspection the operator needs to perform. The inspection can be configured to occur automatically after a configurable interval or a button (using the new action type InspectLastRecordedUnit) can be configured so the operator can inspect the last recorded unit. A new configuration, InspectionConfiguration, has been added to configure the QC inspection.

For more information, see the *Innova Packing Station Installation and Configuration Manual*.

Control products on packing stations

It is now possible to use ProductQuery process units with OptiPack packing stations.

In the past Innova has used either order filter on the Packing Station, which displays all the orders assigned to process unit, or a packing product list was used to filter orders assigned to the process unit. Packing product list has a role as allowed products on process unit (packing station).

The Product Query functionality in WPL has now been expanded to packing. Product query allows the user to write a query for which products to allow on each packing station. This gives users a better solution as they can add a parameter to a product directly in the Product form based on product type, parent product, packaging type, and so on instead of maintaining packing product lists.

The list is not loaded unless the user starts a new process period or reload orders is clicked, for example.

New PLCPackingController added

The PLCPackingController can be used as part of the rail lights setup when using rail systems. The controller records a unit when an INPU message is received from a PLC/WMS device. For more information about installation and configuration of this controller, see the *Innova Packing Station Installation and Configuration Manual*.

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

UltimateStation improvements

User interface XML designer crashes on initialization

When setting up a new UltimateStation in the User Interfaces, the configuration designer crashed on initialization when there was no initial configuration to read. This has been fixed now with a null pointer check.

Conditional input parameter functionality added

A new configuration property, **InputFieldConditions**, was added to UltimateStationCE. It can be used to conditionally enable input parameters.

Show assigned order or collection when packing items

A new configuration property, **SendOperationDataOnTestItemOp**, was added to UltimateStationCE. This sends more information to the server when testing item operations. Also, if this configuration property is enabled, the order that was assigned and collection will be displayed on the screen.

Order conditions were not working correctly

Order conditions were not working correctly in UltimateStation. This has been fixed.

Recording method from packing product list works when orderlines filtered

A change was made to ensure that the recording method is fetched from the Packing product list even though order lines are filtered.

Product counter for items as well as packs

Support has been added for displaying a product counter for Items in the UltimateStationCE. Before it was only possible to view the product counter for packs.

Action validation configurable

Another new configuration property, **ValidateActionsOnProductSelect**, was added that controls if actions should be validated when a product is selected.

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Food Processing Software

Dynamic product list on packing station

Some new configuration properties were added to support dynamic product lists on the packing stations.

- BarcodeProductListScript: A script that is run when a barcode is received on an UltimateStationCe. This script returns the product list that is to be used. This allows for having a dynamic product list that changes on every scan.
- BarcodeInterpreterId: The barcode interpreter that is used on the received barcode. Optional.
- BarcodeEanAI: The EanAI that is used with the barcode interpreter.

BMS improvements

New orderlines view on IPC

A new view, OrderlineQCView, has been created that is similar to the config view. It shows QC selection status at the top and has buttons for toggling QC on/off.

Additionally, it shows the current orderlines in the system as a button matrix with orderline information. The view can retrieve the current order lines from the database and periodically refresh it automatically. There is also a manual refresh button at the bottom of the screen.

This view differs from the existing config view in that it is a status view and will be continously open, so on/off is done without needing to press a Confirm button.

Note that there is no customer selection in this new view.

Packice.exe sends correct ice weight to BMS

Packice.exe has been updated to handle pack ID in the RecIceWeightRequest message. This avoids having queueplc send the ice weight. Support was also added for pack ID offset using offsethelper.

Send change request to Logiflex to send to QC

When a pack is selected for QC, a change request is sent to BMS with the ATT_DESTINATION_LABEL set to e.g. "qc.1". (The destination is configurable.) This uses SendPackToPlc().

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Food Processing Software

Monitor orderlines for pack selection

Changes have been made to limit the total number of packs in the QC queue and not add packs to it if a configurable number of packs are already in the queue.

QueuePlcQueue now maintains an in-memory table with orderlines and when they were last seen and when they were last inspected. An orderline can be inspected for a configurable period.

At a set interval, the orderline list is reviewed and if there are packs older than the configured period, the orderline is removed from the list.

Support for reintroScanner

A Logiflex subscription to queueplc to listen to "reintroScanner.1" has been added.
This reads barcode from message and looks up the pack. It responds with a Change Request message containing:

- PackId
- Weight
- Ice Weight
- Tare

NOTE: BoxType not included since it is not needed in BMS as currently implemented.

Product overview report improved

If the AverageWeight column was enabled in the Product Overview report, the values were shown but the column name was not. This has been fixed.

M2200 packing station improvements

The M2200TerminalController was not updating order info immediately when selecting products. This resulted in slowness. This has been fixed.

Print properties for last individual

Support has been added to the M2200 Packing station to print out properties from the last individual that was created as a result of the packing station operation. This object can be referenced in the configurable extra fields that are available in the station. The root object should be referenced as 'lastindividual'.

Note that this requires that the CreateIndividual unit operation be executed in the packing station unit operation set.

For more information, see the *Innova M2200 Installation and Configuration Manual* in Appendix A under the Available root objects table.

Packscales bug fixed

When using a Packscale with OrderFilter and SingleActiveOrder set to True, only the product on the order is shown. But when using a Pallet scale with the order filter set to True, the menu didn't open and instead went back to the first menu. An exception was shown in the log.

This is now fixed in version 5.9.2 and higher, 5.9.1, 5.9.0, 5.8.2, 5.9.1 stable, 5.9.0 stable, and 5.8.2 stable.

Gross weight check added to Pallet reweigh terminal

A pallet gross weight check has been added to palletrwgtrm when validating tolerance. To use this, the system program XML must be configured:

```
<DataRoot>
<Marel.Mp5.OptiPack.Server.PalletRwgTrmConfiguration>
    ...
<!--Use pallet weight tolerance for confirmation-->
<UsePalletWeightTolerance>True</UsePalletWeightTolerance>
<!--Pallet weight tolerance [%], calculated from Pallet Gross-->
<PalletWeightTolerance>1</PalletWeightTolerance>
<!--Use pallet packs' product content specs for the weight tol-
erance (when all Products on Pallet are FixedWeight, else will
use PalletWeightTolerance%). LowerTol = (PackProdCSpecLowerTol *
NumberOfPack) + TotalTare & UpperTol = (PackProdCSpecUpperTol *
NumberOfPack) + TotalTare (If True, set UsePalletWeightTolerance
= False)-->
<UsePalletProductsWeightTolerance>False</UsePal-
letProductsWeightTolerance>
<!--Supervisor fail safe tolerance [%], calculated from Pallet
Gross. Only applies if UsePalletProductsWeightTolerance = True.--
>
```

```
<SupervisorPalletWeightTolerance />
    ...
</Marel.Mp5.OptiPack.Server.PalletRwgTrmConfiguration>
    ...
<DataRoot>
```

Packrwgtrm enhancements added

Some additional configuration properties have been added to the Pack reweighing terminal. These make it behave similarly to the M2200TCWithRequest packing controller.

The new configuration properties in the PackRwgTrm.exe are:

- EnableWeightRequestMode: Enables automatic request mode, automatically requests weight status and weight record on stable weight, when activated the WeightRequestConfig is used. Automatic request mode starts on scan.
- WeightRequestConfig: Configuration used when EnableWeightRequestMode is enabled.
- WeightRequestConfig.RequestPeriod: Length of time to continue requesting for weight or record after a scan.
- WeightRequestConfig.ScaleMustGoDownToBetweenRecords: Specified weight amount for the scale to go down to between records.
- WeightRequestConfig.MinimumWeightToRequestRecord: Minimum amount of weight to request a record.

Custom exception message not descriptive enough on Expediting Station

When a custom exception message appeared, it only read "CustomMessage". Now the content of the custom message is actually displayed.

Record rejects from Prefiller scale for TargetBatcher

Support for recording rejects from the Prefiller scale has been added to the TargetBatcher G300 controller in Innova version 5.9.0 and higher. If prefill is used for the TargetBatcher, the G300 controller subscribes to the new RecTbBatchPrefilledTarget message (9004409). This message contains the weight and status from the prefiller scale, and is sent whenever a tray goes over the scale. Innova records the rejects from it in the same way it does for the TargetBatcher. The Status, included in the message from the prefiller scale, can have the following values:

- 0 = Valid Prefill: Innova doesn't record anything
- 3 = Unstable. Prefill did not get a stable weight: Innova records a reject with CheckStatus = RejectUnstablePrefillScale (28)
- 4 = Under-weight: Innova records a reject with CheckStatus = RejectUnderWeightPrefillScale (29)
- 5 = Over-weight: Innova records a reject with CheckStatus = RjectOverWeightPrefillScale (30)
- 10 = Rejected: Innova doesn't record anything

If the status field in the message contains any unknown status value, nothing is recorded but the ignorance is traced.

SpeedBatcher resends product multiple times

A SpeedBatcher program is sent to the machine one product at a time. After each product the SpeedBatcher replies with message RecBufferReady (83) and Innova sends the next product. If Innova didn't get message 83 after 10 seconds, Innova stopped sending the program, cleared the activity, and wrote this message in the log: "Device didn't respond to program data."

This has now been improved. If Innova doesn't get message 83, it resends the product up to three times before treating this as an error. This will make sending the program less sensitive to network or other errors. Innova Speedbatcher now shows the configuration status in the process unit form so that the operator can clearly see if sending a program is successful or not and the reason for failure. Activity is no longer cleared on error.

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PDA

Allow output from PDA

Support has been added to the UnitOperation handlers in the PDA framework to handle Output settings. The I/O device must be configured in the PDA winui.exe XML and the unit operation handler needs to return "Result.Data".

Dashboard query components support ReportingSystem and ReadUncommitted

Dashboard Query Components now support custom reporting system and read uncommited code.

Affected dashboard components are:

- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Charts.QueryChart
- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Queries.Linked.LinkedQueryTable
- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Queries.QueryLabel
- Marel.Mp5.Base.UI.UserForms.Windows.Dashboard.Queries.QueryRequest

The following configuration properties were added for all components:

- ReportSystem: The ID of the system that should be used to get data for this dashboard component
- ReadUncommitted: Run queries in isolation mode read uncommitted.

The configuration properties have also been added to the Report Page in the PDA configuration.

PDA QC error fixed

When the user made a QC procedure for PDA with responses where fast lane was set to double express and the procedure was executed, it was not possible to see the response directly like on M6000 and an error message was shown on the PDA.

Using fastlanes enables skipping the screen map and response view at the end of an inspection, provided there are no non-optional responses that need to be addressed, and therefore completing it simply by pressing Done.

On the PDA, the responses were not being taken into consideration and an attempt to complete the inspection was made, which resulted in the error.

The fix for this was to add a check for responses and display the response/results view if any were found before committing the inspection.

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Portioning

Fork settings added and changed for I-Cut 130 and I-Cut 610M

In the Fork settings editor new parameters have been added (Retract at stand still and Distance from last cut) and the Support strategy setting has been changed. Correct settings are now only available for the machine that supports them. This means the look for the fork settings editor will be different for different machine types and will also depend on the strategy type selected. Only the I-Cut 130M and I-Cut 610M support the fork, and for the I-Cut 130M only the version with singulation will have full support for the fork.

See the *Innova Portioning for I-Cut 11, 122, 130, and 610 User Manual* for more information.

Decimals permitted in local knife offset

Local knife offset is changed from an integer to a decimal number.

Portioning detail report missing weight percentages

The percentage value for weight was not appearing in the Portioning detail report. This has been fixed.

Avoid underweight rejects at batch change when using FPU

In the FPU solution the checkweigher automatically changes batch (e-weighing inspection lot) after 10000 items or 1 hour, whichever comes first. When that happens, the FPU must restart giveaway and set target weight equal to nominal weight. However, if there were already several items on the conveyor belt when the checkweigher started a new batch, they might have been cut with a target weight that was less than the nominal weight. These items would be rejected by the checkweigher because the average weight of the batch was greater than or equal to the nominal weight.

To solve this issue, the FPU now detects when a batch is almost finished and then activates batch safe mode. When batch safe mode is activated, the target weight equals the nominal weight to eliminate underweight rejects when starting a new batch.

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Process

Plug-ins added and improved

Two new plug-ins have been added. The **PlutoTopicWriter** plug-in listens for all messages of the given MessageType and uses the message content to update a specific topic on a Pluto device.

The **RailProcessUnitPlugin** can send custom messages to a rail system when a process unit event is triggered. For example, this plug-in might be used when the user wants to have lights on a rail system triggered by a process unit event, thus signaling the operator to react.

The **ProcessUnitDeviceMessage** plug-in now has a SendMessageToDeviceOnContextChangedScript configuration property. If set, it will override the **Message** property and use the message from the script. Available variables in the script are:

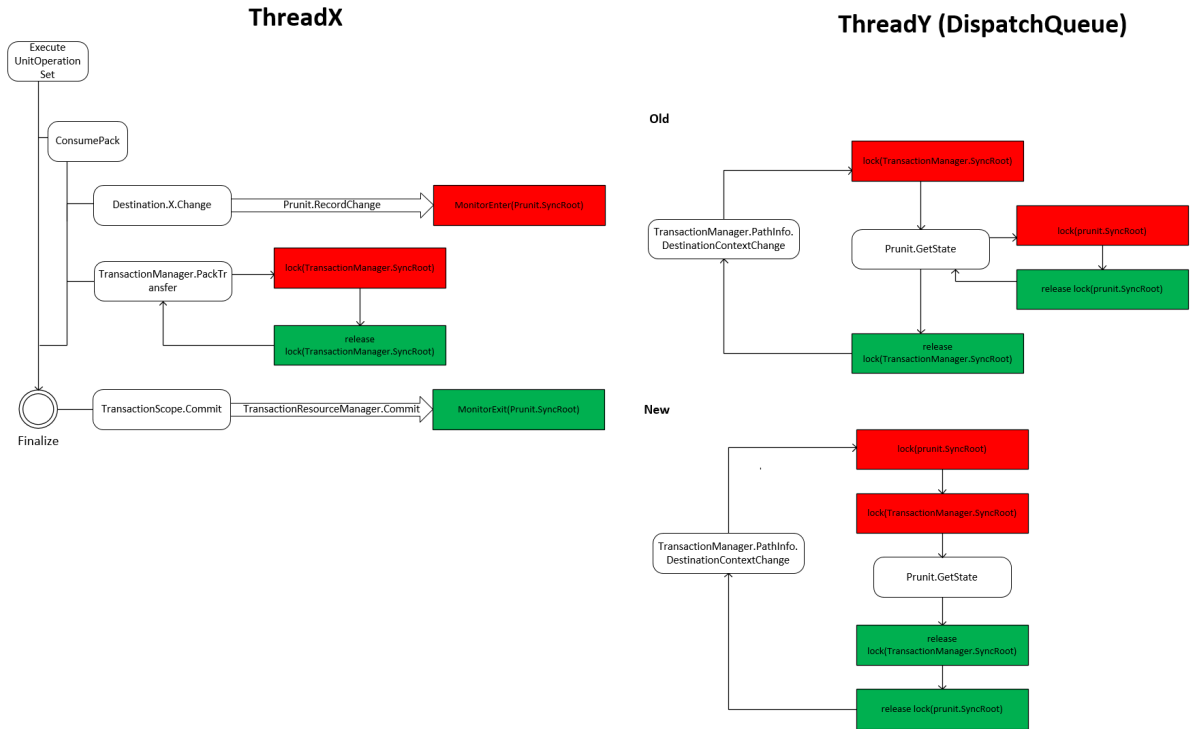
- prunitClient: Process unit client
- lastSentMessage: the last message that was sent to the device
- trace: trace switch

The string to be sent to the device should be stored in a value called **outputMessage** in the script.

Process threading improvement added

A change was made in the transaction manager when a destination/source process unit changes locks are applied in a different way. This was done to prevent deadlocks in the software.

For technical purposes below is a description on how this deadlock can occur.



When ThreadX is executing ConsumePack and the destination process unit is updated, a lock is fetched for the process unit. This locks the prunit.SyncRoot. At approximately the same time (can be slightly before or slightly after) on ThreadY, the TransactionManager receives an update for the destination process unit. The method locks TransactionManager.SyncRoot. Both threads continue to execute until the following occurs (the order is irrelevant):

1. ThreadX calls TransactionManager.PackTransfer(…).
2. The PackTransfer(…) method tries to lock TransactionManager.SyncRoot but can't because ThreadY has already locked it.
3. ThreadY calls Prunit.GetState().
4. The GetState() method tries to lock the prunit.SyncRoot but can't because ThreadX has already locked it. A deadlock has occurred.

The new method prevents this from occurring by changing the order of the locks. When ThreadY gets a process unit update event, the method starts by trying to lock prunit.SyncRoot before locking TransactionManager.SyncRoot.

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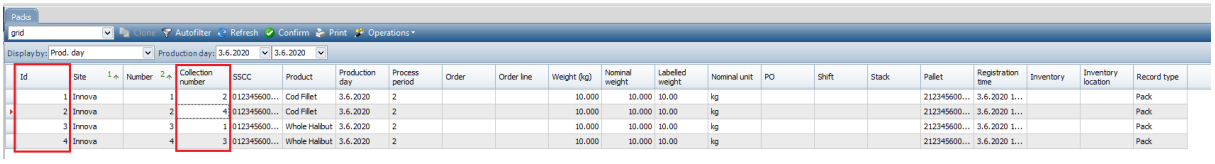
Order pallet packs and stacks by collection number first, then ID, when loading units for pallet

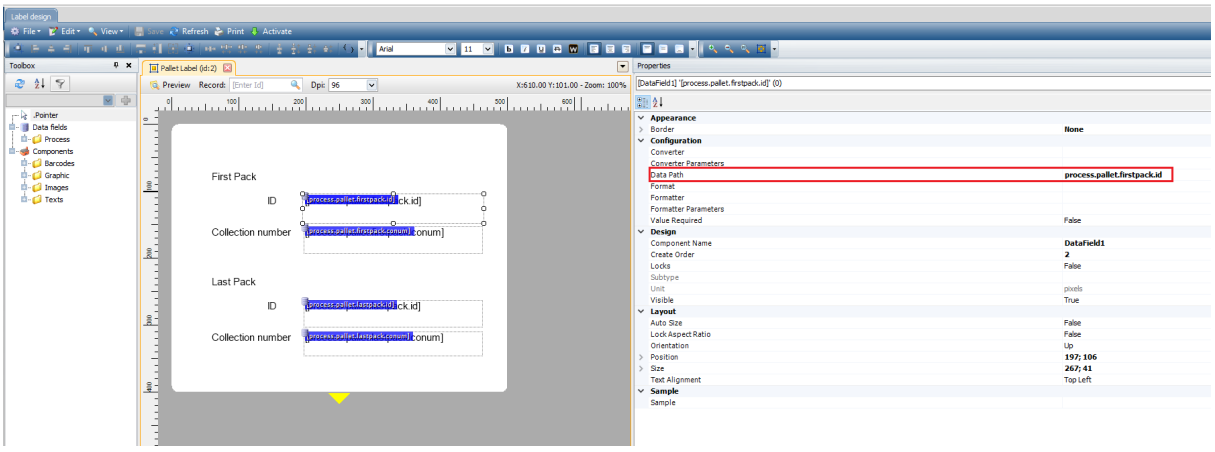
A change was made to order pallet packs and stacks by collection number (conum) first, then ID, when loading units for pallet (PalletInfo). This has been added to version 5.9.1 (nightly) and 5.9.2. It is included in builds as of May 29th 2020.

Example:



1. Pack with id 3 assigned to pallet --> PackId = 3, CollectionNumber = 1, Number = 3
2. Pack with id 1 assigned to pallet --> PackId = 1, CollectionNumber = 2, Number = 1
3. Pack with id 4 assigned to pallet --> PackId = 4, CollectionNumber = 3, Number = 4
4. Pack with id 2 assigned to pallet --> PackId = 2, CollectionNumber = 4, Number = 2

When loading the first or last pack from the pallet, e.g., in label designer using process.pallet.firstpack / process.pallet.lastpack data path, the pack loaded will be represented by its collection number, i.e., the first pack has the lowest collection number and the last pack has the highest collection number.



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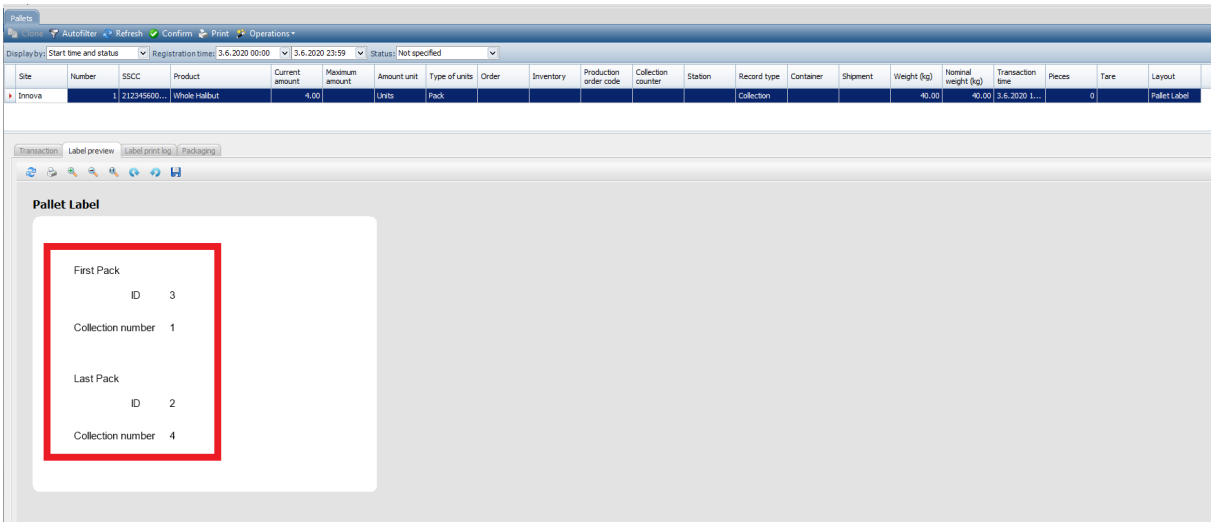


Improvements made to standard unit operations

Fixed a crash in **ApplyItemOrderLabels** when an item did not have an order and ApplyCustomerProductParameters was activated.

A new configuration property, **UpdatePackOrderLineAmounts**, adds support for updating pack amounts in *ItemToPack* and *ItemFromPack* unit operations.

The **ReceiveItem** unit operation now uses purchase order line in context data if purchase order line DI is set. This was already available in the ReceivePack unit operation. Now ReceiveItem and ReceivePack are compatible.

Fixed a bug in **PackToOrder** that sometimes crashed with a NullReferenceException.

A new unit operation is available in Process.Services, **AssignMaterialSpecifications**. It behaves similarly to the CalculateMaterialSpecification unit operation in Slaughter Control.

Other Process improvements

It is now possible to include trace information in the unit operation log. There is a Trace information column that has been added to the form.

The Registration time filter option has been added to the Items form.

Two new system types have been addded to the Products form: unprocessed and by-product. Additionally, the user can now hide the BaseProduct column.

A bug was fixed in the ProcessUnit where an exception was thrown when running the "procop -o crisa" operation. This would create multiple log records in the system log each night.

A ReferenceCriteriaProvider was added for database maintenance.

An index has been added to the proc_matxacts table for porderline and rtype columns.

The prday field on ManagePrunitControllerExtension is too small for operators and they could not select the correct production day on the user interface. To correct this, the font size and the size of the buttons has been enlarged on the calendar control used in the WPL9000 IPC GUI.

Procman thread deadlock workaround created

An issue has been identified in procman.exe when running a Consume[Unit] unit operation. When a property in the destination process unit is set/updated, this can cause procman.exe to go into a deadlock randomly. This is not an SQL deadlock but rather a thread deadlock. This causes procman.exe to still be running but only working partially. The biggest hint that this deadlock has occurred is that when the user opens the trace form for a program, no trace switches appear. If this occurs please take a memory dump of the program that is in this state and submit it.

Another hint of the existing problem could be a lockup of tables in the system. Since procman.exe has most likely got various tables/records locked when it enters this thread deadlock it keeps the database locks until they timeout, which can take quite some time.

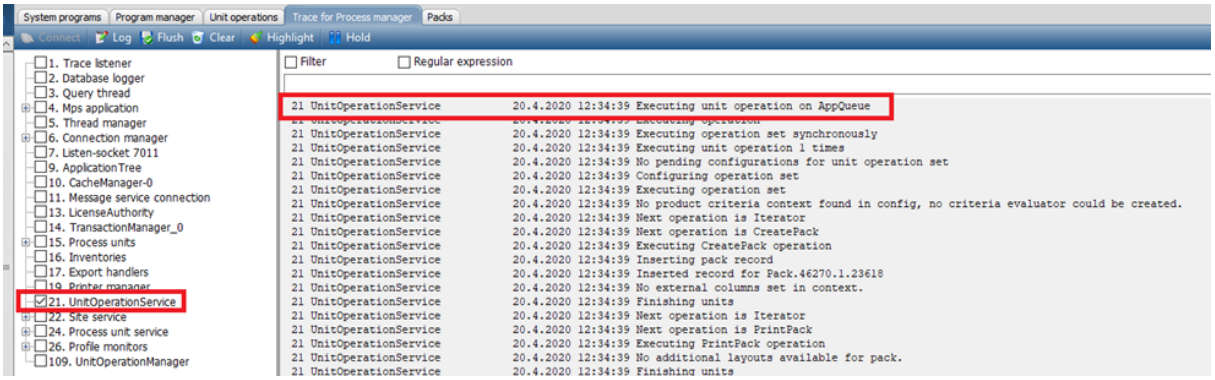
Cause

The cause of the deadlock is race condition of threads. To read more what that means see https://stackoverflow.com/questions/34510/what-is-a-race-condition.

Solution

Development is working on a fix for this, but until then a workaround has been added to the Unit operation service running in procman.exe if this occurs. Go to System Administration > Programs > System programs and find the procman.exe that is causing the issue. In the XML configuration there is a new property, **UseAppQueueOnExecuteSynchronously**. Set this to True and restart procman.exe. This will cause the unit operations to be executed

in the same thread as the process unit update and thus prevent the issue. To verify that this is working the user should notice the following when running a unit operation:



This workaround was added in:

- Release version 5.9.0, the build number should be at least 590.2020.226.1 (the fix was added February 25th).
- Release version 5.9.1, the build number should be at least 591.2020.521.1 (the fix was added May 21st).

Lot record extension function added

A new Lot Record Extension function PublishChanges() which can be called from scripts has been added. The function notifies the ProcessUnit Service about any changes, reloads the Lot for all Process Unit instances with that specific lot, and notifies all necessary Process unit client for updates.

Script example of "After supplies added script" for a Process unit:

```
import System
from System import *
from System.Runtime import *
from Marel.Mp5.Process.Activity import *
from Marel.Mp5.Base.Diagnostics import *
from Marel.Mp5.Process.Activity import LotRecord

def Execute():
    if (newLot != None) :
```

```
        traceOut("New Lot - Id:{0}, Name:{1}", newLot.Lot,
newLot.Name)
        newLot.Name = newLot.Name + " - Test"
        newLot.UpdateChangedByKey()
        # Publishing Changes to Process Unit Clients
        newLot.PublishChanges()
        traceOut("Name of Lot:{0} changed to {1}", newLot.Lot,
newLot.Name)

def traceOut(traceMsg, *params):
    if trace.TraceInfo :
        objects = System.Array.CreateInstance(object, len
(params))
        counter = 0
        for x in params :
            objects[counter] = x
            counter = counter + 1
        if (len(objects) > 0) :
            trace.Put(traceMsg, objects)
        else :
            trace.Put(traceMsg)

traceOut("----------------------------------------{0} BEGIN-------
-----------------------------------");
Execute()
traceOut("----------------------------------------{0} END---------
-----------------------------------");
```

The script updates the name of the new lot which is being assigned to the Process Unit with the name (newLot.Name + "Test").

Order control enhanced

A number of improvements and enhancements were made in order control.

A new table has been added for linking orders together. This can be done in the Order links tab on the Orders form after turning the feature on using the User interface editor.

Two new order statuses were also added:

- Not Confirmed: when production cannot commit to producing this order; sales monitors this status for all orders.
- Confirmed: when production has committed to producing this order; sales monitors this status for all orders.

Order control form improvements

The Order control form is used to open orders and, during production, to follow the progress. It is also used to assign orders and change the amount or priority of orders and orderlines. To do this more effectively, the behavior of the form has been improved.

On the left side is a tree view of the orders, process units, stations and sections and how they are connected. If an Order is assigned to a certain Process unit/Station, it will then be displayed under the appropriate Process Unit node in the tree view, etc. It is possible to drag and drop orders between Process Units or between Stations. The changes will then be reflected on the right side of the form. It is also possible to drag an Order from the Orders/Order lines form to a Process unit or Section in the tree view. If dragged to a section, the order will be assigned to every Process unit in that section. If an order line is dragged to a destination, the Order for that order line will be assigned to the destination.

When right clicking a Process Unit or Station, the user can:

1. Add order
2. Add order by product type
3. Add order by parent product
4. Remove all orders

When **Add order** is selected, a popup dialog will appear where the user can select any order and assign it to the process unit/station.

When **Add order by product type** is selected, a popup dialog will appear where the user can filter the orders by product type. You will be able to select any order matching the filter value and assign it to the process unit/station.

When **Add order by parent product** is selected, a popup dialog will appear where the user can filter the orders by parent product, and the user will be able to select any order matching the filter value and assign it to the process unit/station.

When **Remove all** is selected, all orders will be unassigned from the selected process unit/station.

When right-clicking an Order in the tree view, the user can:

1. Remove
2. Filter by order

An Order can also be highlighted in the Order tab by selecting it in the tree view.

RailHandler improvements made

A new configuration property, **ScriptId**, has been added to WmsMasterDirect. If set, a script is run every time a message is received and the output of the script is used to determine which RailLocation should handle the message.

Also, RailUnitOpCE now supports the **ExecuteOnSingleScan** configuration property.

A bug in Railhandler caused a crash when stopping the service using program manager. This is now fixed. And another bug in RailhandlerUnitOpCE caused context configuration to not work correctly. This is also fixed.

More properties have been added to RailHandler service mode to allow turning on/off specific events. These are:

- ServiceHandleEmptyRail: Whether or not to let RailhandlerUnitOpCE handle empty rails when railhandler service mode is on.
- ServiceHandleNoUnitFound: Whether or not to let RailhandlerUnitOpCE handle no unit found when railhandler service mode is on.
- ServiceHandleNoWeightReceived: Whether or not to let RailhandlerUnitOpCE handle no weight received when railhandler service mode is on.
- ServiceHandleInvalidWeight: Whether or not to let RailhandlerUnitOpCE handle invalid weight when railhandler service mode is on.
- ServiceHandleException: Whether or not to let RailhandlerUnitOpCE handle exceptions when railhandler service mode is on.

Railhandler now allows fractions in the **MaxWaitForScaleRecord** configuration property. A bug was fixed that could cause Railhandler to loop endlessly in an error. Another bug was fixed in Railhandler V2 that could cause a task to never start.

When using RailHandler with V2 turned on, unit exceptions are not logged into the system log anymore.

Sometimes RailHandler V2 could not send a message to the unit operation station because the exception was not serializable. This has been fixed. Additionally, GUI editing of the RailHandler V2 configuration is now allowed to reduce the risk of configuration errors.

Custom columns in Packs and Pallets forms

It is possible to add columns with custom values to the Packs form and Pallets form. Previously this was referred to as Extra columns, however they have been renamed to Custom columns.

To utilize this functionality the user must have Supervisor access in the Innova client. Access to the Innova database and knowledge of tables related to the data table in question is also required.
Use a database management tool to add a new Scalar-valued function:

```
CREATE FUNCTION [dbo].[fnGetPackCustomValue]
(
    @Id int
)
RETURNS nvarchar(50)
AS
BEGIN
    DECLARE @ResultVar nvarchar(50)
    -- Implement query to retrieve the desired value from a related
table...
    -- Then set the desired value to the @ResultVar variable
    SET @ResultVar = 'ID=' + cast(@Id as nvarchar(10))
    -- Finally return the result
    RETURN @ResultVar
END
```

Below is another example that produces a custom status text based on various data in other columns on the pallets.

```
CREATE FUNCTION [dbo].[fnGetCollectionCustomStatus]  (

    -- Add the parameters for the function here

    @UnitId int

)

RETURNS VARCHAR(30)

AS

BEGIN

    -- Declare the return variable here

    DECLARE @Result VARCHAR(30)

    DECLARE @Inventory int, @Order int, @Shipment int, @CurrAmount
real



    SELECT

    @Order = [order],

    @Inventory = inventory,

    @Shipment = shipment

    FROM proc_collections  WHERE id = @UnitId



    SET @Result = (CASE

    WHEN @Order > 0 THEN 'On Order'

    WHEN @Inventory > 0 THEN 'On Inventory'  WHEN @Shipment > 0
THEN 'On Shipment'
```

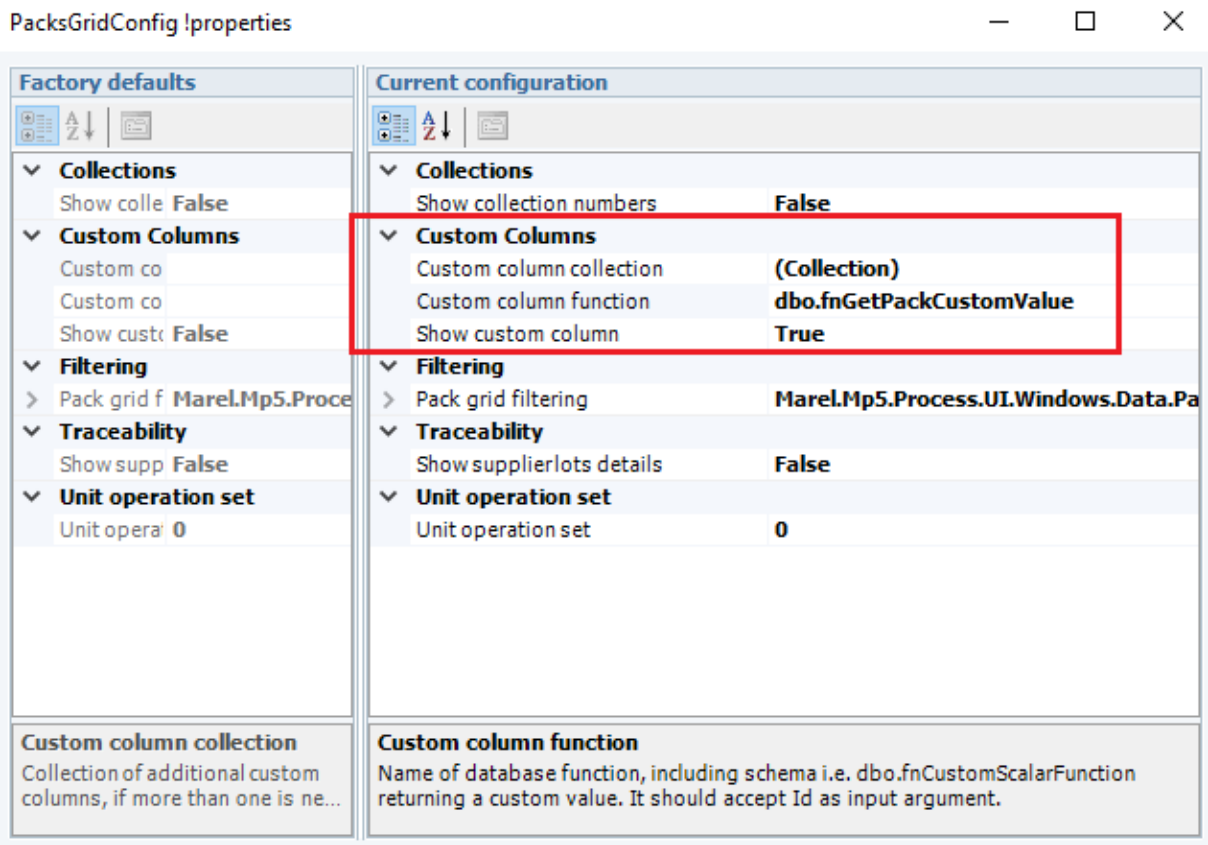
```
    ELSE 'Waiting'

    END)


    -- Return the result of the function  RETURN @Result

END
```

In Innova, go to **Software Administration > User Interfaces > User Interfaces**. Locate the node for the form to add custom columns to. Click **Configure** to enable the Custom column. Set the name of the function as value for the **Custom column function**, also set the **Show custom column** to *True*.



Save and activate the changes.

Open the form. The custom column is added on the right. The header text for the column can be translated, but the default caption is "Custom value".

Use the design view to adjust width and position of the custom columns and then save the layout. Custom fields are not visible in the record view that is available.

Use the **Custom column collection** if more than one custom column is needed. Click the variable and add items as needed. It is possible to specify header captions for the columns directly in the collection.

Label printing

In order to reuse this function for label printing, make a stored procedure (SP) which calls the function. Then use it in the label macro for running stored procedures (execpalletsp).

The following defines a SP doing this for the above function for pallets.

```
CREATE PROCEDURE [dbo].[spGetCollectionCustomStatus]  (
    -- Add the parameters for the function here
    @UnitId int
)
AS
BEGIN
    DECLARE @Result VARCHAR(30)
    SET @Result = dbo.fnGetCollectionCustomStatus(@UnitId)
    SELECT @Result
END
```

The input parameter must be named **@UnitId** in order for it to be usable in the exec*sp print macros. When using the execpalletsp macro the current pallet ID will be injected into this parameter. Here is a StreamLayout example showing the usage of this:

```
<?xml version="1.0" encoding="utf-8" ?>
<!DOCTYPE StreamLayout [
<!ENTITY layout "
CLL
DIR4
NASC 1252
FT &quot;Century Schoolbook BT&quot;,10,0,100&quot;
PP 70,40:PT &quot;Pallet:&quot;
PP 70,250:PT &quot;{0}&quot;
PP 120,40:PT &quot;Status:&quot;
PP 120,250:PT &quot;{1}&quot;
PF
">
]>
<StreamLayout Layout="&layout;">
<LayoutElements>
<!--{0}--><Value Object="pallet" Field="id"/>
<!--{1}--><Value Object="execpalletsp"
Field="spGetCollectionCustomStatus"/>
</LayoutElements>
</StreamLayout>
```

Ctxstart program enhanced

The ctxstart system program listens to I/O buttons to start context items (pending lots, activities, PO, Batches, and so on) on process units. For example, it can be used to start a pending lot on a line by pushing a button connected to an M3000. Ctxstart can act on one or more attributes of a process unit, such as both lot and activity. This program works with M3000, PL8, and now with the Lichtenvoorde Siemens PLC.

The program can set an output high when a context item is pending. An example of how this would work is that somebody sets a pending lot or activity or other process unit context item on a process unit. The ctxstart.exe can set an output high on an M3000/PL8/PLC. This output is normally wired to a light so operators will be notified that something is pending.

When the operator presses a button, the ctxstart.exe starts the pending lot/activity/etc on the process unit.

For more information, see the *Innova Process Administration Manual*.

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QC

Malformed SQL for GeneralInspectionCE fixed

When the "Recent" button was pressed, the malformed SQL was sent to the SQL server which reported an SQL syntax error. The order by clause contained an undefined table alias: insp. This has been corrected to qc_inspections.

Error fixed in QC inspection import

When importing QC inspections from a system that has more than a certain number of inspections, the import fails no matter how many the user tries to import. To fix this, an array index guard was added when setting the description on the target record. The fix was added to versions 5.9.0 and higher.

Unexpected QC IPC keyboard behavior corrected

An issue with the onscreen keyboard within the Innova QC IPC user interface was reported. If enough characters were typed into a field that a scrollbar was created, and then the back-space key was pressed on the on-screen keyboard, the scrollbar went back to the top and the entire field was no longer visible. Scrolling back down and pressing backspace again repeated the behavior. To fix this, the scroll editor now goes to the current caret position on erase click. This fix was added to versions 5.8.1 and higher (release and stable).

QC inspections errors corrected

An icorrect QC inspection registration occurred when pressing Done upon finishing an inspection. To fix this, the last non-required, repeated formula item is excluded when press-ing Done. The fix was added to versions 5.9.0 and higher.

Lot from pallet was not transferred to the lot field in inspection when using Marel.Mp5.QC.UI.Common.SelectCollectionInspectionControllerExtension. To fix this, lot was added to the fields transferred by SelectCollectionInspectionControllerExtension when inspecting pallets.

When an inspection is performed, the objectid looking into proc_materials is stored in the inspection. When this inspection was viewed in the Inspections form, the objectid data was no longer visible. In some older versions, selecting the objectid showed the material that was originally selected, but in later versions, the inspection threw an error stating that the inspection was not complete. The Inspection viewer has been fixed so that objectid items now show the selected value.

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Unable to create new QC procedure

If the ID of the calculator had an undefined value, it was not possible to create a QC procedure. It has been fixed so that the ID of the calculator now has a defined value, or null if it is not defined.

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QC Scanner

Reports optimized and improved

The Shipment report for the MS2920 QC Scanner has been optimized to improve performance and reduce the amount of time it takes to generate the report.

The column "Process period" is actually the program name. This has been changed in the Production Overview report.

Discrepancies were noted between the Total number of fillets in the Production when measured against the number shown in the Color distribution - Unknown graph bar. Also, the numbers in the weight distribution weree almost the same as the number in Color distribution displayed in the chart and if the total the number in weight distribution did not coincide with the Total weight. These two issues have been corrected in the Production Quality Report, the Shipment Quality Report, and the Supplier Quality report.

Error fixed when receiving data for image names

An issue was fixed where Innova was not able to receive data from a QC Scanner when the data for image names could be interpreted as integer numbers.

Dashboard exception fixed

An issue was fixed where Dashboard editor was not able to show QC Scanner items when no QC Scanner System program was installed in the system.

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Recipe

Fixed issue with lot mismatch

An issue was fixed where the lot name was not updated on the Recipe Management screen after the lot had been started and the lot name changed. Now the corresponding LotRecord is invalidated in the cache manager when the batch's lot status is changed, because the LotRecord is fetched from the cache manager when the button text is set on the batch control view.

Recipe system improvements made

An unhandled exception error appeared when logging off of a Recipe IPC station. To fix this, a null check was added for the client (RecipeServiceClient) before detaching from events.

The Undo button at the Production step should cancel the last registration. This did not work when Create Only One Unit was not checked, but works as designed when it was checked. This has been corrected so that when the user taps the Undo button it cancels that last registration.

In the Production step where it allows the user to put in a value for the weight, a strange number appeared. To fix this, Innova now ignores the EditValueChanged event when data is refreshed.

In some cases, if the user started with an empty batches form (i.e., no batches for the current production day) and then created a new recipe batch on another client (e.g., the IPC), then the empty form in WinUI showed an exception. This has been fixed.

An error with two Recipe reports, Batch Detail and Production, has been corrected. This was related to an earlier correction for the proc_orders table and a missing a Control recipe column.

A device was not counting towards completion of the batch. This was because the Batch record was cached, and therefore did not include the assigned order ID when routing was done. This was fixed by assigning the order ID to the corresponding Batch, which is stored in the cache, as soon as the missing order has been created.

Also, the unit operation step was missing some context: lot, process unit, and order. This information has been added.

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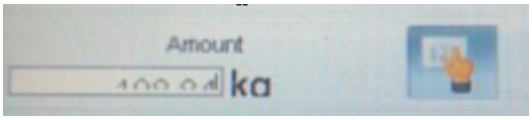
Issue fixed with batch selection when scanning

There was an issue when scanning a batch in BatchSelectionView (both PDA and IPC). It was unable to get the batch header by lot code when scanning on PDA, and there was an issue for both IPC and PDA when populating PrunitPrPeriods on RecipeOperationContext (duplicate prunit keys). To fix this, Innova now uses the actual batch list instead of the views listBoxControl to fetch the batch header by lot code on scanning and create a unique list of batch process units.

Fields cut off on PDA

Weight was not displayed correctly upon scan on a PDA. It appeared as shown below:



To fix this, the controls in scanning and production steps on PDA were resized.

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RoboBatcher Flex

RoboBatcher Flex improvements

Vision and category fields added to Innova

Vision settings are used when a vision system is used before the RoboBatcher Flex to help determine optimal batching. The Robot Program editor form includes vision settings. It is also possible to import and export recipes with vision parameters. And any quick adjusts that are made on the RoboBatcher Flex are shown in Innova. When installing the RoboBatcher Flex in Innova the user can choose to include Vision settings in the Quick Config.

The categories in the Robot Program editor form used to be fixed. This has been changed. Now available categories are downloaded from the RoboBatcher Flex so that Innova is always using the same categories that are defined on the RoboBatcher Flex. The categories are automatically downloaded each time Innova connects to the device.

Weighing units added

Previously it was not possible to select weighing units gram (g) or ounce (oz) in the Grading system setup form. Only kilogram (kg) and pound (lb) could be selected. This is now fixed. Additionally, the user can set the weighing unit when installing RoboBatcher Flex using Quick Config.

Error and reject codes added

Two new internal LIBRA web service error codes were added: Recipe weight not matching tool (-11) and Vision condition failure (-12).

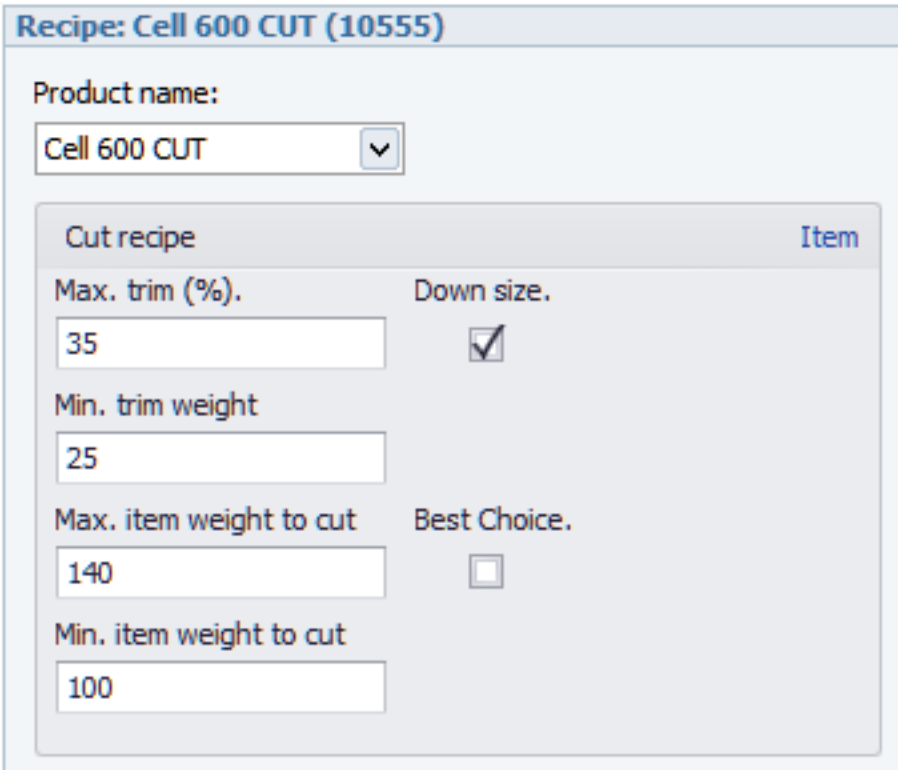
Four new reject codes (25-28) have been added. The following table is an exhaustive definition of reject categories and used texts in RoboBatcher Flex SW-version 02.02.07. The relation between symbols and numbers is defined for use in IWT protocol.

Symbol	Number	Text
SEPARATOR_SPACE_ERROR	2	Space too small for ejector
NO_REACHABLE_BIN_ERROR	3	No reachable bin

JOB_NOT_FOUND	4	Job not found
ITEM_TYPE_NOT_FOUND	5	Item type not found
WEIGHING_ERROR	6	Weighing error
NO_VISION_DATA	7	No Vision Data
GRADE_NOT_FOUND	8	Grade Not Found
VISION_COND_FAIL	9	Vision Condition Failed
BIN_NOT_FOUND	10	No free positions
RATE_CONTROL_ERROR	11	No free positions, Rate control
NO_ORDER	12	No Order
VISION_DETECTION_ERROR	13	Vision Dimensions Exceeded
ROBOT_READY_ERROR	14	Robot Not Ready
ROBOT_CAPACITY_ERROR	15	Robot Capacity Exceeded
STATISTICAL_ALLOTMENT_TOO_BAD	17	Statistical allotment too bad
OUTSIDE_LIMITS_ERROR	18	Outside limits
PROPERTY_MISSING_ERROR	19	Property missing
OTHER_REJECTS	20	Other rejects
SKIPPED_BY_ROBOT	21	Skipped by Robot
PORTION_WEIGHT_ERROR	22	Portion Weight error
QUALITY_NOT_FOUND	23	Quality not found
OUTSIDE_PICK_BOUNDARY	24	Outside Pick Boundary
LOW_PLACE_CAPACITY	25	Low Place Capacity
ROBOT_INACTIVE	26	Robot Inactive
LANE_PAUSED_ERROR	27	Lane Paused
NO_ROOM_FOR_GRIPPER	28	No Room for Gripper

RoboBatcher Flex and I-Cut integration improved

A new recipe cut parameter, Max item weight to cut, can be used with the RoboBatcher Flex -I-Cut integration. The parameter is visible in the Robot program editor.



This is supported from RBF 02.02.20 on the robot.

Disposition sent twice

During parameter adjust the recipe DISPOSITION tag was being sent twice to the RoboBatcher Flex: once with the adjusted value and once with the default value. This is now fixed.

Positive/negative tolerance adjustments confusing in dashboard components

When batch target weight was changed, the positive and negative tolerance was adjusted to keep the minimum and maximum batch weight the unchanged. This behavior was confusing and has been changed. Now the batch positive and negative tolerance columns just display the tolerance. The batch min/max weight columns display what was previously in the positive/negative tolerance columns.

Innova 5.9.2 Release Notes

SensorX

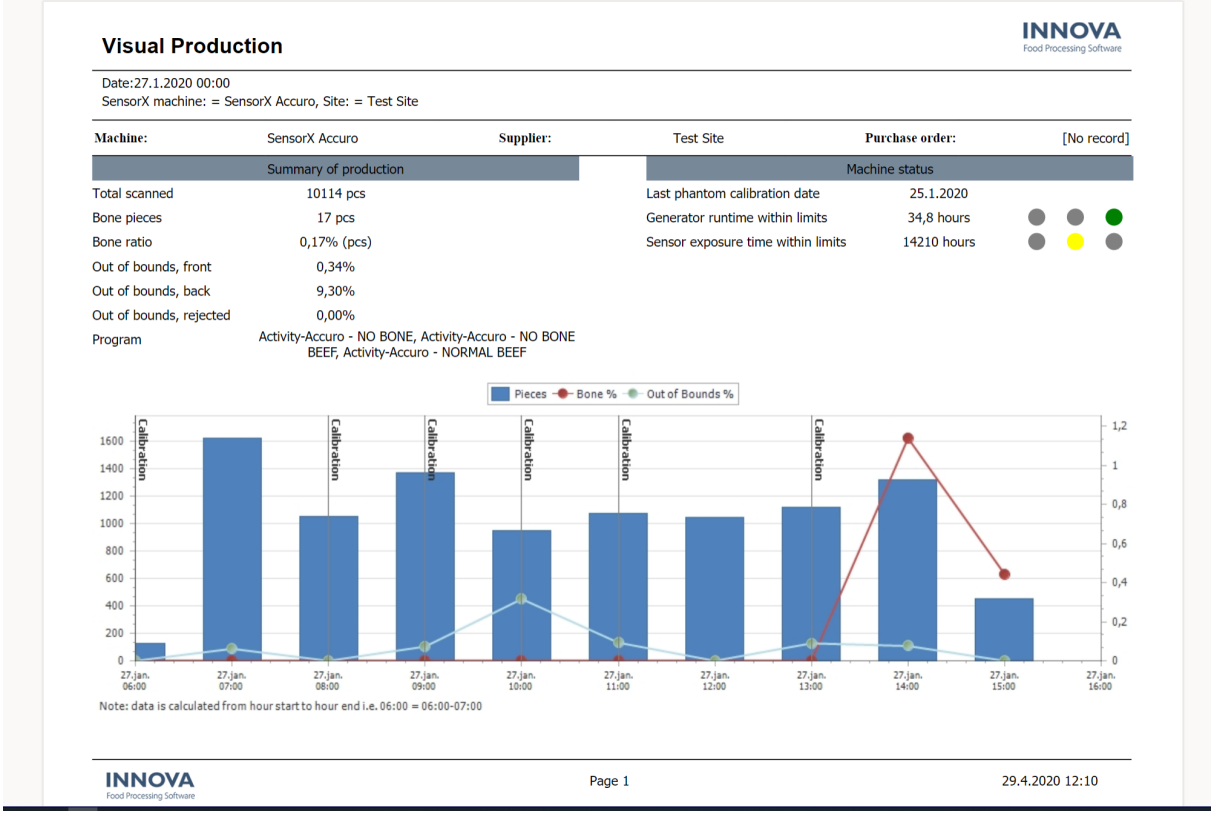
Visual production report improved

A number of improvements were made in the Visual production report:

- PO number changed to PO name
- *Total scanned weight* visibility is now configurable. In the VisualProductionReportConfig set TotalScannedWeightVisible to true.
- Removed the traffic lights for *Total scanned*
- *Bones pieces* weight visibility is now configurable. In the VisualProductionReportConfig set BonePiecesWeightVisible to true.
- Removed the traffic lights for *Bone pieces*
- Bone rate changed to Bone ratio
- *Bone ratio weight* visibility is now configurable. In the VisualProductionReportConfig set BoneRatioWeightVisible to true.
- Removed the traffic lights for *Bone ratio*.
- Removed *Out of bounds*.
- Split *Out of bounds %* into *Out of bounds front %*, *Out of bounds back %* and *Rejected because of out of bounds %*. *Rejected because of out of bounds %* is a new message received by Innova from SensorX.
- Last program adjustment is removed.
- Changed name of *Last phantom validation* to *Last phantom calibration date*. This is a new message received by Innova from SensorX.
- Removed *Out of bounds (on/off)*.
- Removed *Bone settings within window*.
- *Generator runtime within limits* has the following configuration limits: VisualProductionReportConfig.GeneratorRunTimeGreenMark : 15000 VisualProductionReportConfig.GeneratorRunTimeRedMark : 22000
- *Sensor exposure time within limits* configuration has the following configuration limits: VisualProductionReportConfig.SensorExposureTimeGreenMark : 10000 VisualProductionReportConfig.SensorExposureTimeRedMark : 15000
- Removed Gain calibration
- Removed Last registration calibration
- In the graph program markers have been removed.

Additionally, the report has been optimized to fit both A4 and US Letter size paper.

Innova 5.9.2 Release Notes



Hard contaminants option added to reports

SensorX systems can be configured to report hard contaminants in addition to bones detected. Support for viewing this information has been added to a number of the standard Innova SensorX reports. These are:

General\BonesThroughput
PieceBased\PiecesBonesShift
PieceBased\PiecesBonesStation
PieceBased\PiecesBonesThroughput

To show hard contaminants in these reports, set the report configuration property **ShowHardContaminants** to *True*.

A new Production report was also created, **Production Hard Contaminants**. It is based on the Production Simple report and includes hard contaminants. No configuration is necessary for this report.

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

Data added to reports

The Station Events report now shows the SensorX Event Types **LastPhantomCalibration**, **AutoTuningLog**, and **ClValidationLog**.

The Bones Throughput Report, Out Of Bounds Throughput Report, and Pieces Bones Throughput Report also show the **AutoTuningLog** and **ClValidationLog** SensorX Event Types.

To achieve this some adjustments were made in Innova. Some missing message types were added. SensorExposureTime is saved in base_measurements instead of stationevents with a new measurement type: SxSensorExposureType = 13. The phantom calibration time event is saved to the database with its timestamp.

MsgID = RecSxRunState == 1276.
MsgID = RecSxPhantomCalibration == 1278
MsgID = RecSxAutoTuningLog == 1279.
MsgID = RecSxClValidationLog == 1281.

SensorX web dashboards give an error when being viewed in WinUI

The SensorX web dashboard gauge components were missing implementation for callback error. This is now added to all four components. The fix is in version 5.9.1 and higher.

Column added to Piece registrations

The weight column to was added to the Piece registrations table and is populated with the value type CL.

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

SensorX Accuro (formerly TMS)

Hard contaminants option added to reports

SensorX systems can be configured to report hard contaminants in addition to bones detected. Support for viewing this information has been added to a number of the standard Innova SensorX reports. These are:

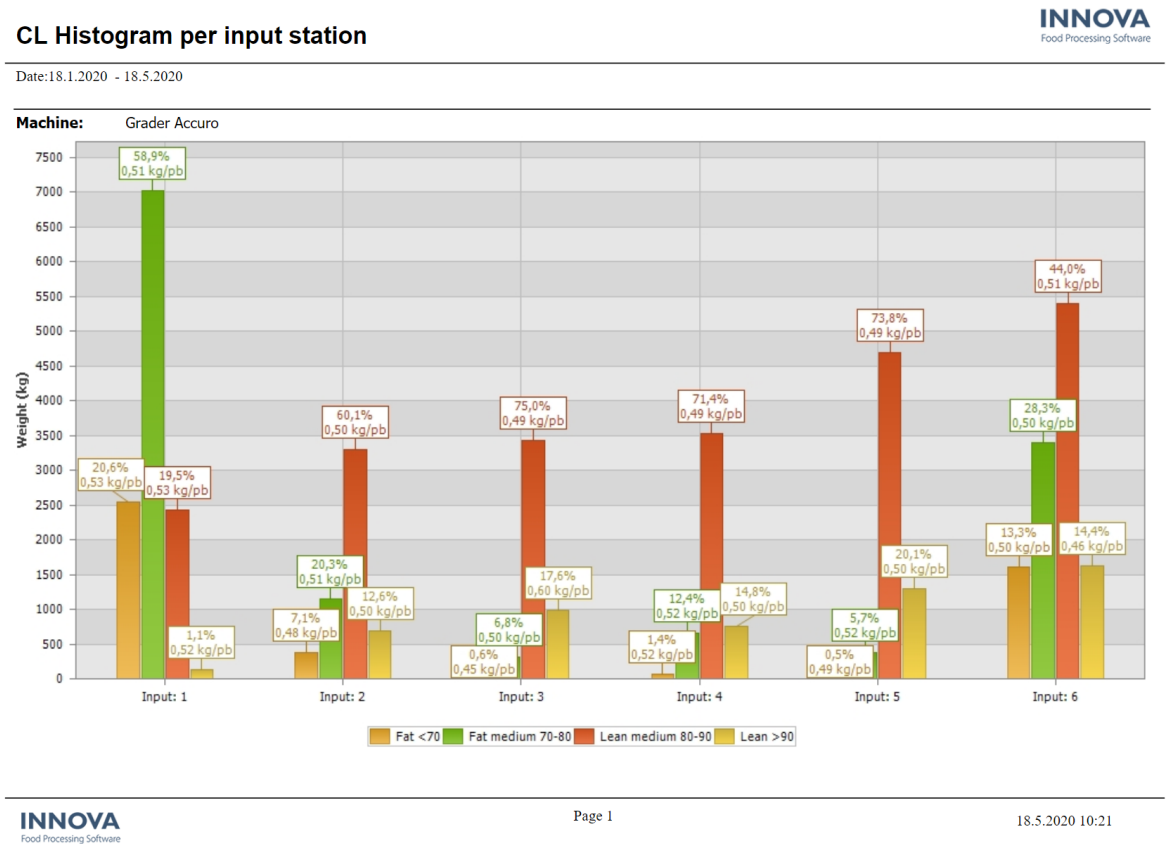
General\BonesThroughput
PieceBased\PiecesBonesShift
PieceBased\PiecesBonesStation
PieceBased\PiecesBonesThroughput

To show hard contaminants in these reports, set the report configuration property **ShowHardContaminants** to *True*.

A new Production report was also created, **Production Hard Contaminants**. It is based on the Production Simple report and includes hard contaminants. No configuration is necessary for this report.

New CL histogram report added

A new histogram report showing grouped CL distribution per pre-sorted pre-batches on infeed stations. Data is currently supplied by the SensorX containing from which infeed buffer the pre-batch originates from CL distribution of the pre-batch.



The X-axis is grouped by Input feeders. Each group is the CL distribution per Input feeder. The CL distrubution has four categories: Fat, Fat medium, Lean medium and Lean. The CL values seen on the screenshot (<70, 70-80 etc) are configurable.

The Y-axis is Weight. Each bar has a label displaying the CL group ratio per infeed station and Average piece weight per pre batch.

The report also has a breakdown options for Machine, Lot, PO, and None. The example above has the Machine breakdown active.

For information about the configuration of this report, see the *Innova SensorX Accuro (TMS) User Manual*.

Innova 5.9.2 Release Notes

SensorX Magna

Combo-to-combo support added to SensorX Magna

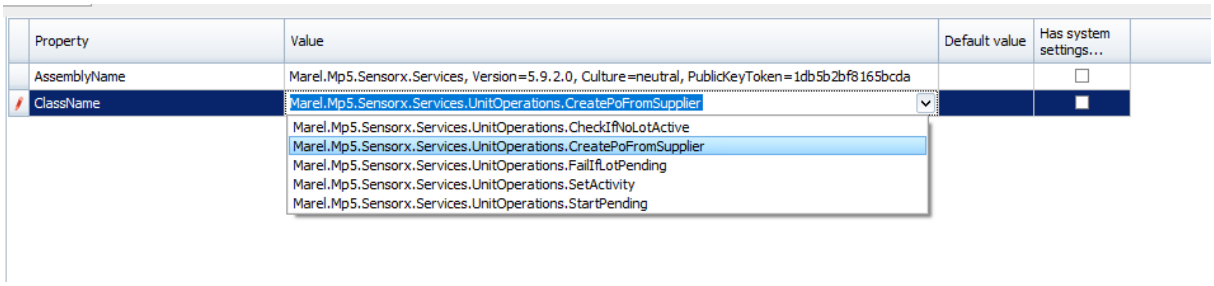
SensorX Magna now supports combo-to-combo functionality. Combo-to-combo can be installed either through the SensorX Quick Config or manually. Support has also been added to the input station for creating POs based on supplier.

For more information about installation and configuration, see the *Innova for SensorX Magna Installation and Configuration Manual*.

Improvements to custom operation

Some fixes were added for the UnitOpEditor's CustomOperation:

- Assembly names are fully qualified.
- ClassName lookup is populated when assembly is set in the cell. (Previously the assembly needed to be manually selected before class names were populated.)



These have been added to versions 5.9.1 and higher.

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

Slaughter Control

Classification station functionality expanded

Support was added to the Classification station in the KillFloor2 module to calculate the YieldGroup on the station when the operator is entering values. Support has been added to the CreateClassification unit operation in the KillFloor2 to link item to a classification.

The item column was added to the bkl_clregs (Classification table) so the classification can be linked to a specific item.

Also, a bug was fixed in the Classification station in the KillFloor2 module when fetching the age record for the age field.

And two new configuration properties were added to the Marel.Mp5.KillFloor2.UI.ClassificationGroup.ClassificationGroupCE for controlling the recent records form:

- DisplayCompletedClassRegsInGrid: indicates if the form should display completed classification registration; otherwise incomplete registration is displayed.
- UseTattooSlaughterDayForRecentRecords: indicates that the slaughter day for recent records should be fetched from the station process unit or from the selected tattoo/PO.

Added ability to fetch animal from a queue automatically to Process station

Support has been added to the Process station in the KillFloor2 module to be able to fetch the next animal from a queue automatically. This can be configured in the Animal lookup field by setting **AutomaticallyGetNextOnQueue** to true.

It is also possible to click on an animal in the Grid control to set it as the current station animal. The Grid control is now refreshed when a new animal is added to the incoming queue.

Functionality was also added to bypass an animal on the station.

Added ability to fetch animal from a queue automatically to VInspection station

Support has been added to the VInspection station in the KillFloor2 module to be able to fetch the next animal from a queue automatically. This can be configured in the Animal

lookup field by setting **AutomaticallyGetNextOnQueue** to true.

Also, error messages have been improved when an animal is not recorded.

New unit operation added to Receiving station

For the receiving station, a new unit operation, **UpdateIndividualLotCount**, was added to update a lot count linked to the animal. Also, the ability to go back to the PO selection when a PO/Lot is marked as completed was added.

Also, some changes were made to configuration. The default value of QuantityAsPoExpect (in CreateStandardPoLinesPanelConfig) has been changed to false.

The QuantityAsPoExpect configuration property was added to the Receiving group panel configuration, which indicates if Po.Expect should be used instead of Po.Received to represent Quantity.

And null checks were added for the **Tattoo.Received** property when calculating remaining weight and pieces.

Innova 5.9.2 Release Notes

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Food Processing Software

Solutions

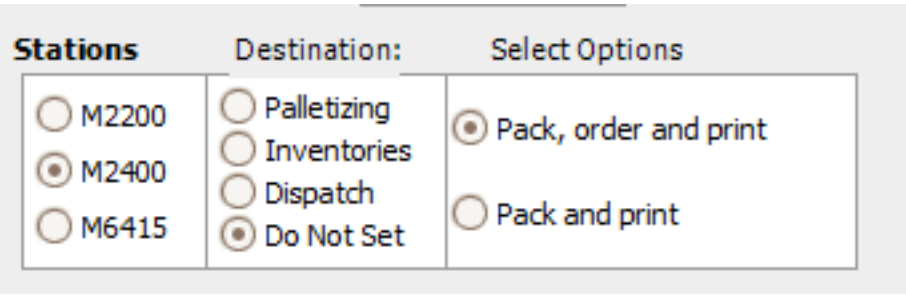
Alibi support added for Bizerba

A configuration property, RequestAlibi, has been added to the Bizerba device driver (Marel.Mp5.Solutions.ScaleDrivers.Bizerba.iSxx.Connection.ScaleDirect). Setting this property to true enables Alibi in recordings.

Innova Checkout improved

Some improvements have been made to Innova Checkout and added to version 5.9.1 and higher.

- The XML path is fixed to import Checkout labels.
- The Integration checkbox was not working properly before. It would install even though it was unchecked. Now, the checkbox's Boolean value is used to check when installing and add the CSV export/import handlers.
    - If Import engine is checked then the Import engine is installed and activated along with the process and the handler (xml/csv).
    - If Export engine is checked then the Export engine is installed and activate along with the handler (xml/csv).
    - If either is checked and demo data is checked, then integration demo data is installed.
- Lookups for PackStations, PDAs and Printers are now the same for install and update: PackStations 0-5, PDAs 0-5 and Printers 0-7.
- Only the first packservices.exe system program contains the *-s -p* parameters.
- An option was added to choose between **Pack order and print** and **Pack and Print** + show destinations for M2200/M2400.



- In the Order control setup the customer was missing from the internal production order. Now the internal customer has been added to the embedded orders XML.

- Two weight unit selection bugs were fixed: an issue with install button disabling and all weight units have been added to the lookup.
- PDA functions now supply four different GUI items: palletizing, inventories, dispatch and not set.
- When doing pallet select on the same station, the value of the OnStation property has been changed to false for PalletSelect > ListHandlers > ListUnits.
- Support was added for the M2400 packing station, and the M6215 was renamed M6415.
- An issue was fixed that occurred when updating pre-existing Checkout systems. Previously when updating with multiple IPCs and/or PDAs, it was only looking at the first selection (i.e., station 1 or PDA 1).

IndividualGradingScale enhanced

Previously, the InputFieldColumns XML property was not used in the IndividualGradingStationCE. It is used now.

Also, a bug was fixed where configuring the input fields in Marel.Mp5.Solutions.GradingScale.UI, didn't resize the field controls correctly.

And a bug was fixed where the wrong animal found after QC inspection. Now when returning from the inspection screen, the animal that was found before going in the inspection screen will be displayed. If no animal was found then no animal is displayed.

Three new configuration properties were also added to the Marel.Mp5.Solutions.GradingScale.UI.IndividualGradingStationCE:

- PreNextAnimalLookupUO: if set, executes a unit operation before the next animal is found with the next animal button.
- InspectAnimalAfterCondemingAnimal: if set, an inspection on the condemned animal is performed with the configured inspection procedure.
- AfterInspectionUO: unit operation that should be executed after an inspection has been performed.

Espera integration enhanced

Format strings configuration was added for reading price/weight in Espera messages.

Allow controlling mode (checkweigher vs. non-checkweigher) for PID from material to override settings in configuration. This dictates which message (tray or checkweigher) is used as source for item registration.

Weighbridge performance improved

The weighbridge views wb_orders and wb_pos were optimized to improve performance.

Also, a bug was fixed that caused an exception when creating packaging if Innova was using a custom unit operation and notes were entered.

And finally, the Inventory name, Inventory code, and Inventory location columns have been added to the Shipment form.

Box Sorter improved, new plug-in added

A new Box Sorter plug-in, UODestinationPlugin, was added.

This plug-in executes a unit operation to determine which destination to route the pack to. It does that by looking at the unit operation OutputSettings output number to determine the destination.

OutputSettings can be set using the **SetOutputSetting** unit operation.

The number of rows in OutputSettings should be exactly 1 or the destination will always be 0.

WMS Plug-in message types enhanced

The WMS plug-in in Box Sorter was changed to send a TSOR message even if a unit or valid gate is not found. This is implemented in 5.9.2 and greater, 5.9.1, 5.9.1 stable, 5.9.0, 5.9.0 stable, and 5.8.2.

Bug fix when using PL8 as scanner

A bug was fixed in Box Sorter when using PL8 as a scanner that would cause a crash. This is implemented in 5.9.2 and greater, 5.9.1, 5.9.1 stable, 5.9.0, 5.9.0 stable, 5.8.2, and 5.8.2 stable.

Innova 5.9.2 Release Notes

ATT_BARCODE now supported

ATT_BARCODE is now supported in Box Sorter when using a Logiflex device. If this field is sent, it is used instead of the old ATT_BARCODE_TYPE.

Ftrace enhanced to wrap request in SOAP envelope

Two new configuration properties were added for the export handler Marel.Mp5.Solutions.Ftrace.WebService.WebServiceExportHandler.

- WrapInSoap: If True, this wraps the request in a SOAP envelope; uses the stylesheet in WrapInSoapXsltPath.
- WrapInSoapXsltPath: The stylesheet used to wrap each request in a SOAP envelope

An xslt transformation file to wrap the web request will then be needed for the WrapInSoapXsltPath to wrap the web request in a SOAP envelope.

Minor WMS improvements made

Support was added for LOUP messages when the WmsV2 configuration was activated in the WMS/PLC device driver. Support was also added for specifying a source IP address (connecting from) in the RFC/WMS driver.

A crash was fixed in WMS/PLC driver when an incompatible message is received.

Improvements made to Wholesale Pack Terminal

Besides some bug fixes, a few other improvements have been made to the Wholesale Pack Terminal (wholesalepackterm.exe). These include:

- Barcode profile has been added to the program.
- AssignScannedSSCCtoSubProductNewPack and its functionality has been removed.
- Set the default value for the SSCC field to NotSet.
- Changed the way a pack is found.
- Added some trace information.
- Added a SourceInventory check when ScannedPackProductSelected.
- Added a new BarcodeField to give more freedom in how the pack is fetched.
- Changed the exception when the pack is not in the Source Inventory.

Two configuration properties were also added:

- AssignScannedSSCCToSubProductNewPack: indicates if the scanned SSCC should be updated as the new pack SSCC.
- BarcodeInterpreterId: barcode interpreter ID.

Innova 5.9.2 Release Notes

INNOVA
Food Processing Software

Traceability

Bug fixed in Backward trace report

Boxes in Rejected material transactions (deconsumed) will now be counted as negative boxes like the weight is in the Marel.Mp5.Process.Reports.LotTraceability.SupplyLists.BackwardTraceReport.

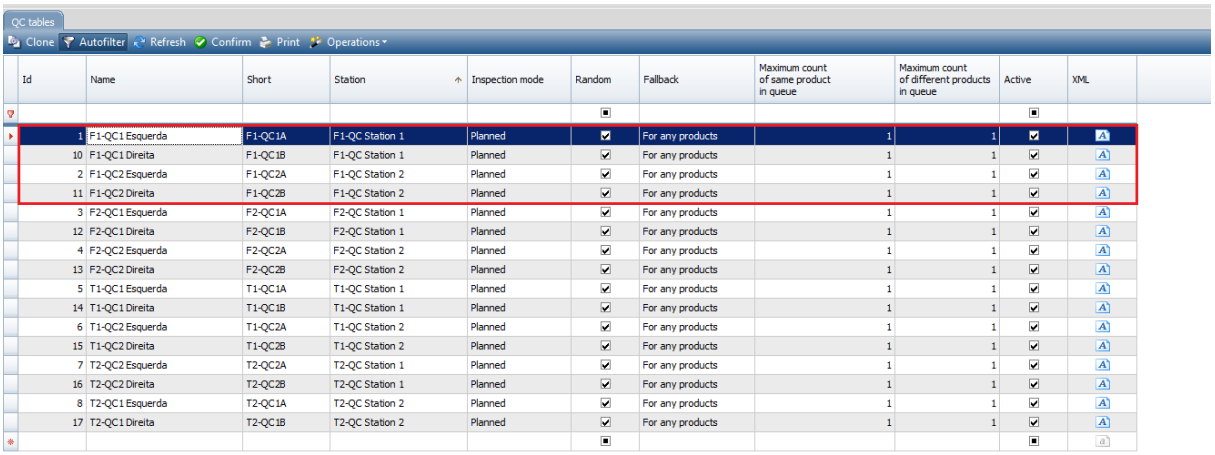
Innova 5.9.2 Release Notes

Trimming

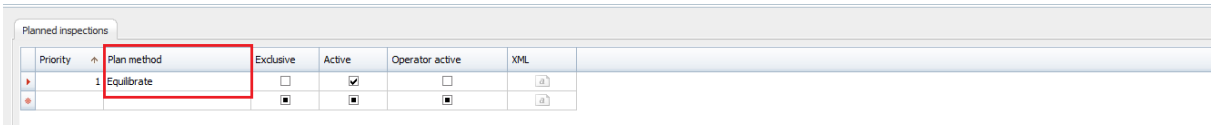
New plan method added

A new plan method, **Equilibrate**, has been introduced for planned QC trimming inspections. The goal of this method is to try and equilibrate the inspection distribution between employees on a trimming line with synchronous buffer drops.

For the Equilibrate method to work, all QC tables for the given line must be configured for *Planned* inspection mode and each table must contain the *Equilibrate* plan method. Other plan methods can be used alongside the Equilibrate method. These inspections are included in the statistics for the equilibration calculations.



Id	Name	Short	Station	Inspection mode	Random	Fallback	Maximum count of same product in queue	Maximum count of different products in queue	Active	XML
1	F1-QC1 Esquerda	F1-QC1A	F1-QC Station 1	Planned	☑	For any products	1	1	☑	
10	F1-QC1 Direita	F1-QC1B	F1-QC Station 1	Planned	☑	For any products	1	1	☑	
2	F1-QC2 Esquerda	F1-QC2A	F1-QC Station 2	Planned	☑	For any products	1	1	☑	
11	F1-QC2 Direita	F1-QC2B	F1-QC Station 2	Planned	☑	For any products	1	1	☑	
3	F2-QC1 Esquerda	F2-QC1A	F2-QC Station 1	Planned	☑	For any products	1	1	☑	
12	F2-QC1 Direita	F2-QC1B	F2-QC Station 1	Planned	☑	For any products	1	1	☑	
4	F2-QC2 Esquerda	F2-QC2A	F2-QC Station 2	Planned	☑	For any products	1	1	☑	
13	F2-QC2 Direita	F2-QC2B	F2-QC Station 2	Planned	☑	For any products	1	1	☑	
5	T1-QC1 Esquerda	T1-QC1A	T1-QC Station 1	Planned	☑	For any products	1	1	☑	
14	T1-QC1 Direita	T1-QC1B	T1-QC Station 1	Planned	☑	For any products	1	1	☑	
6	T1-QC2 Esquerda	T1-QC2A	T1-QC Station 2	Planned	☑	For any products	1	1	☑	
15	T1-QC2 Direita	T1-QC2B	T1-QC Station 2	Planned	☑	For any products	1	1	☑	
7	T2-QC2 Esquerda	T2-QC2A	T2-QC Station 1	Planned	☑	For any products	1	1	☑	
16	T2-QC2 Direita	T2-QC2B	T2-QC Station 1	Planned	☑	For any products	1	1	☑	
8	T2-QC1 Esquerda	T2-QC1A	T2-QC Station 2	Planned	☑	For any products	1	1	☑	
17	T2-QC1 Direita	T2-QC1B	T2-QC Station 2	Planned	☑	For any products	1	1	☑	

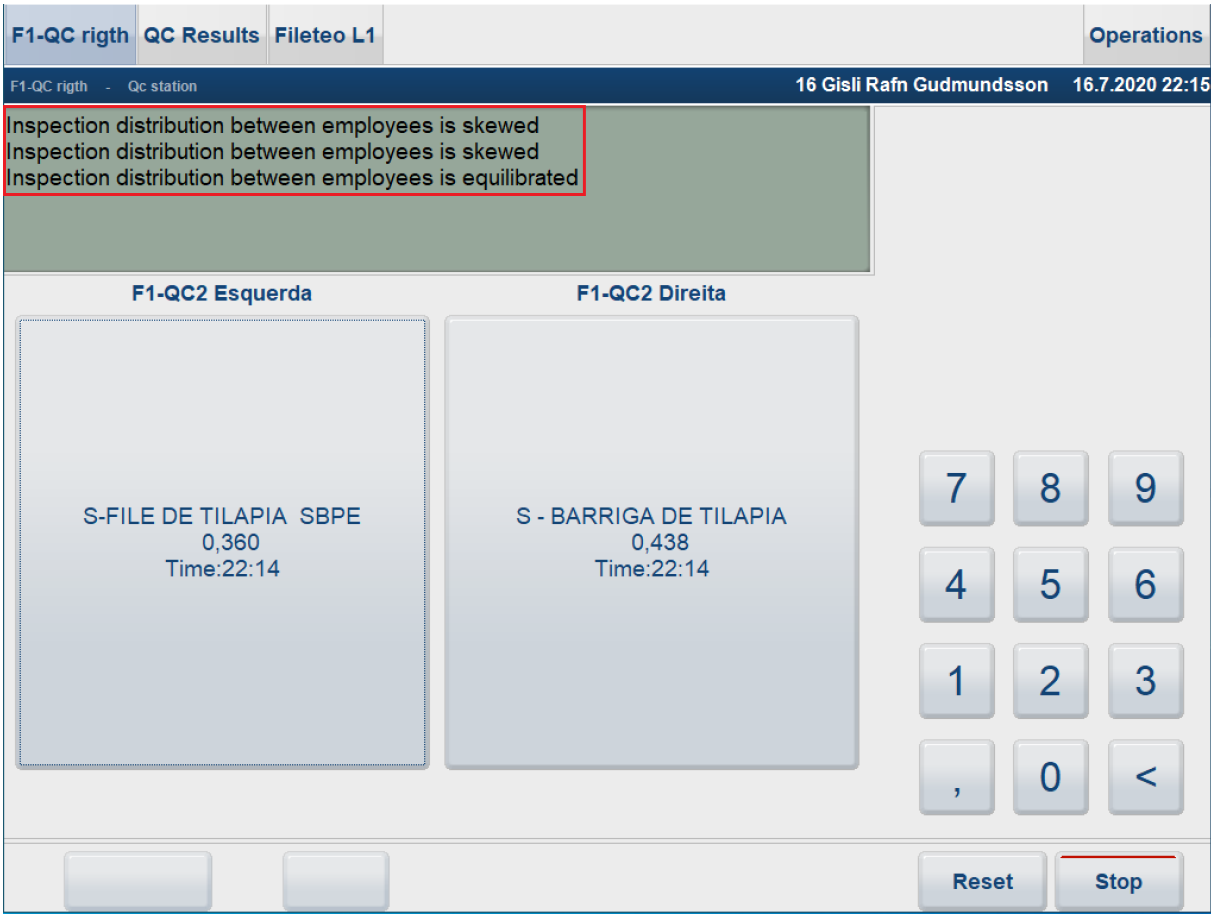


Priority	Plan method	Exclusive	Active	Operator active	XML
1	Equilibrate	☐	☑	☐	

The configuration for the equilibration process is defined in the Trimming system's XML configuration. For information about the configuation options, see the *Innova Trimming QC Installation and Configuration Manual*.

This plan method works in the following way:

1. A statistics class takes care of storing each employee's number of inspections and the total, as well as executing the necessary calculations based on configuration.
2. During a synchronous drop on the trimming line a new round is started.
3. In each round the plan method decides if an inspection should be offered to given employee based on the current statistics.
4. Each time an inspection is finished for an employee, the statistics are updated.
5. When the distribution becomes bad, according to configuration, a log message is shown on the trimming line's QC stations as shown below, indicating that the distribution is skewed.
6. When the distribution changes from bad to good an indication is shown in the log as shown below.



Inspection screen updated with not logged in employee

An issue was fixed where the Rt220 QC screen was updated with an inspection not belonging to the employee currently logged in to station. Now the QC screen is only updated if the

completed inspection belongs to employee currently logged in. This was added to version 5.9.1 and higher.

FleXitrim Quick Config added

The FleXitrim Quick Config for quick and easy installation and configuration has been added to Software Administration in the Quick Config folder for the Trimming menu package. It was added to version 5.9.1 and higher.

Trimming QC station improved

The following improvements have been added for trimming QC stations:

- Include defects, number of inspections with defects and its total weight, when product is inspected from the station.
- Include defects when employee totals are loaded for current process period, e.g. on station login
- Show QC totals if overview should be displayed on Rt220 when inspection is completed

Innova 5.9.2 Release Notes

Unit operation station

QC inspection added to Unit operations station

QC Inspection support has been added to the UnitOpCE. If configured, a QC inspection panel opens for the operator needs to perform. The inspection can be configured to occur automatically after a configurable interval or a button can be configured so the operator can inspect the last unit. A new configuration, QcInspectionConfiguration, has been added to the UnitSetup to configure the QC inspection. Additionally, a new action type, InspectLastUnit, was added so the operator can click an action button to request a QC inspection manually.

Possible to use physical keyboard on UnitOps station

Improvements were made to the unit operation station's performance when using a physical keyboard attached to the unit operation station. Now the Tab and Enter keys on the keyboard work as expected. No configuration is required for this.

Context configuration functionality added to RailUnitOpsCE

The thin configuration enhancement introduced in the 5.9.0 release for the UltimateStationCE and the UnitOpCE has been expanded to RailUnitOpsCE. This option allows Innova service consultants to configure multiple packing stations or unit operations stations quickly. When you click **Configure** in the user interface for the specific CE, the Context designer option will appear. The Context designer contains only those few configuration flags that need to be different between stations, such as ID or source process unit.

For the RailUnitOpsCE form the context configurable properties are:

- RailLocation
- Printers
- Destination process unit
- Source process unit
- Process unit override
- Station override

One other minor change was made to the RailUnitOpCE. If the configuration switch DoNotLoadRailBarcodeUnit is set then labels are reloaded on rail received.

Other unit operation station improvements

Support was added to require a valid weight in the UnitOperation station CheckWeightParameter. There are two configuration properties that must be set correctly for this to work: **RequireValidWeightForRecording** and **AllowOperatorOverride**.

A configuration property, **ClearParametersOnNewUnit**, has been added to UnitOpCe that allows clearing parameters on a new barcode scan.

A new configuration property, **ResetProductParametersScaleSettingsOnCEActivated**, was added to the UnitOpCE. If true the Product parameters on the connected scale are reset to clear any settings on the scale. By default this is set to false.

Unit operation station was converting barcodes to numeric value if the barcode was numeric. This could cause problems, so a new configuration property was added called **DoNotConvertBarcode**.

The possibility to render PropertyLabel and MonitorLabel as parallel tasks was added, which should speed up formatting of label values.

The ability to cache the record formats for the RecordLookupOperationParameter was added.

It is also possible to open the filter keyboard when a LookupOperationParameter opens. Additionally some changes to improve performance on the station were done.

The AutoExecute configuration property now works again.

And an issue was fixed where the ProductParameters would be reset when DownloadUnitProductParameters was not used.

Improvements to QueryLookupParameter and QueryLookupOperationParameter

Minor improvements were made to the **QueryLookupOperationParameter**. Query parameter is now multi-line and information will be traced if an output parameter exists in ButtonFormat or Shortformat which is not in the SQL output.

The ability to fetch a record after selecting a query record in the QueryLookupOperationParameter was added. And a bug was fixed in QueryLookupParameter that caused the designer to crash; also the Visible parameter was made visible in the designer.

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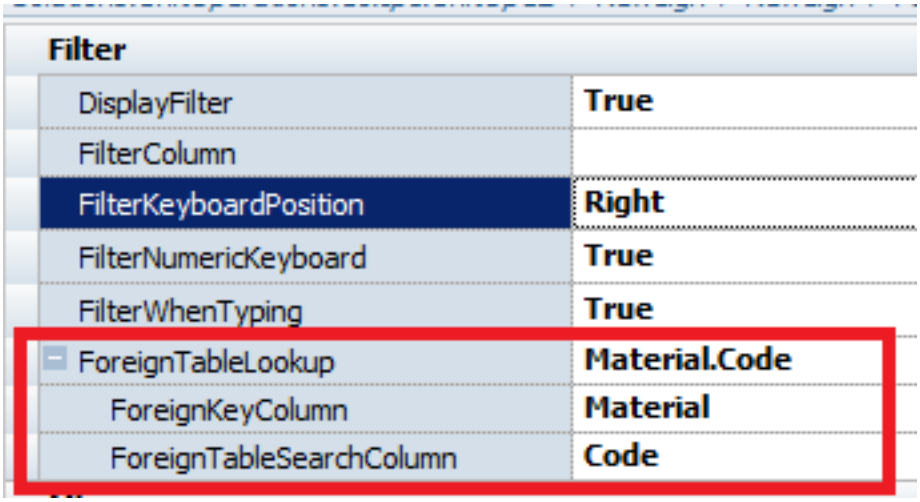
Improvements to record search filtering

New configuration properties were added to the **RecordLookupOperationParameter** and the **MultiLookupOperationParameter** to help with the record search filtering that's available for the operator. These changes were added to make the filtering faster on the station if the filtered text is from a foreign table, for example, when displaying OrderLine records but displaying and filtering only the OrderLine.Material.Code. Additionally the filter search is now threaded for better performance.

- ForeignTableLookup: if the filtering should be done on a column linked to the record lookup table. Note that using this will make the search faster.
- ForeignKeyColumn: the foreign key column in the Record lookup table. All required information is found from it. Note that the value is case sensitive, for example if referencing a material column the value should be 'Material'.
- ForeignTableSearchColumn: the column in the foreign table that should be used to filter on. Note that the value is case sensitive, for example if referencing a code column the value should be 'Code'.

Additionally the ability to control the filter keyboard position was added and can be controlled by **FilterKeyboardPosition**.



Improvements made to RailhandlerUnitOpCe

RailhandlerUnitOpCe was using an incorrect RailLocation field for rail location. This has been corrected.

And a bug in RailhandlerUnitOpCE was fixed where parameters using railhandlerevent context could be off by 1.

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WPL

Can now select layouts created by Comformat Editor and Label Designer

Selecting the layout for a product by filtering it by media type only worked for comformats of the same type. This means that all comformats had to be created by the Comformat Editor or by the Innova Label Designer. This has now been changed, so that it is possible to mix comformats created by both type of editors.

Label rotation added to WPL9000+

If a factory had a number of WPL9000 machines where some are running left to right, and some are running right to left, it was possible to rotate the label at the print head on the right to left machines in order to use the same layout on all machines. The new WPL9000+ doesn't have the possiblity to rotate the label at the print head. This means that the rotation has to be done by Innova. The rotation can be done by changing the setting “ReverseLabel” to true in the WPL Station configuration XML.

Order progression support extended

Order progression was initially created for systems with the TG-9 grader. It has been updated to support the TD-9 diverter as well.

In order to handle the dynamic loading of order lines, the following settings must be set on the WPL and TD9:

TD9 settings:
Enable **Pack Message Target Reset**.
Enable **Early Complete**.

WPL settings:
Comformat target count needs to be *dynamic*.
Disable **Target system**.

Innova must have the following setup:

The plug-in to do dynamic loading while running is called **HandleOrderProgressionPlugin**. Instead of downloading 99 orderlines upfront, when a new schedule is created, this plug-in downloads the first 10 and puts the rest in a queue. When an order line is completed, the next orderline in the queue is downloaded to the WPL in the background.

Create an entry in the WPL Plugin manager. The plug-in is in the **Marel.Mp5.WPL.Plugins** assembly. Classname is **Marel.Mp5.WPL.Plugins.HandleOrderProgressionPlugin**. Constructed by is **Marel.Mp5.Wpl.Services.WeighPriceLabellerStation**. The description should be something like: "Dynamic load of order lines."

In the WPL Station XML change the following settings:

ReplaceComformatMode to *True*
NumberOfBands to *10*.

Allow mixed lots in a box when using a TD9

A new configuration property, **ResetTotalizer**, has been added to the WPL System XML. The property is by default *True*. This means that the internal totaliser in WplMan is reset when there is a lot change, such that the boxes only contain items from one lot. If **ResetTotaliser** is set to *False*, the internal WplMan totaliser will not be reset, and this will allow mixed lot boxes.

The update is available in 5.9.2 and 5.7.2 (Release) from build version 572.2020.526.1.

Use Products and Totals comformat to set pack size for WPL/TD-9

The TD-9 diverter normally gets the packsize from the WPL comformat. Now packsize is sent directly from Innova. The changes will also work with the TG-9 if running in single product mode.

WPL System XML additions include a new configuration property, **TL9UseproductsAndFormatsForSingleproducts**. If set to true, the WplMan will send Products and Totals comformats to the TD-9 to set the pack size. If set to false, it will use the setup section in the WPL comformat to set the pack size, which was the behavior used until now. A second new configuration property is **StopOnDownload**. If the TD-9 requires that the line is in Stopped state before the comformats Products and Formats can be downloaded, set this property to true. If it is false and **DontCheckMachineState** (see below) is true, then the WplMan will pause the line and initiate the download sequence.

GUI setup additions include the configuration property **DontCheckMachineState**. If this is true then the machine state is not checked before downloading multi's. Set this to true, otherwise the operator will get a message prompt if the WPL is not in the Stopped state.

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Use full font name, not font family, in the printed element sent to the WPL

Windows is using the font family when referring to a TrueType font, but the WPL is using the full font name. Most of the time this isn't an issue as the font family and full font name is the same. But this is not the case for some Arabic fonts used in Australia.

Now the comformat should contain the full font name, when using TrueType fonts. It was using the font family name, as it is normal in Windows.

Remaining items missing on IPC

The remaining items was not always shown on the WPL IPC. This is a bug that was introduced in 5.4.2. It has been fixed.

Exception when tray rejected

The WPL throws an exception when the totaliser rejects a tray. This is an error introduced when the A600 grader support was added. The error has been fixed.

Weight recording error fixed

WPL/OCM data was not being recording with the correct weight and resolution. This was because the conversion factor between cental (1/100 Lbs) and kilograms in Innova was 220,4523. The correct factor is 220,4623. The affected module is the WPL module when running with imperial units. The issue has been fixed.

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Yield Control

Logiflex yield scale bug fixed

An error was fixed in the Logiflex_YieldScale_ProductList yield device where the device would throw a null exception error when sending down a new product list.

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Upcoming enhancements

Butchers-I QC scanner for meat

The Butchers-I QC scanner for meat is currently in development. It is based on the MS2920 QC Scanner for Salmon but will contain features for quality control of meat instead.

Some parts of the Butchers-I QC Scanner in Innova, such as the device, are already present in Innova. These objects are included for prototype testing purposes and users should not attempt to install them.

MS2010 Salmon depalletizing robot

The MS2010 is a robot that picks up boxes with iced salmon from a pallet and empties these boxes through a de-icer into the production line. This is the first part of a salmon line; the next machine is often an MS2720 Deheader or MS2730 Filleting machine.

Since the MS2010 is the first machine in the line it also sets the pace for the whole line; this is counted in pieces/min (fish/min). It is important that the MS2010 delivers fish to the line at the right speed: too slow and this lowers throughput, and too fast reduces lifetime of the robot and increases risk of the robot breaking the fragile (reused) Styrofoam boxes.

The MS2010 has one or two lanes (left and right). Normally that would be used to feed fish to two different lines so the two lanes don't mix the fish. Each lane can contain two pallets: one being emptied and another waiting. The MS2010 scans each pallet when it moves from the waiting position to the emptying position so that it know the height and orientation of boxes.

Innova for MS2010 Salmon depalletizing robot

Innova supports the MS2010 Salmon depalletizing robot as a new solution.

This solution is highly customizable because scanning pallet labels is a crucial part of this solution, and that always needs to be customized for each customer. The description here is the recommended solution, but it can be changed to fit each customer.

The main purpose is to tell the robot how many fish in total are on the pallet. This makes sure the robot can empty the pallet (de-palletize) at the correct speed to match the optimal pace of the line.

All pallets must have a pallet label which contains the total number of fish on the pallet. This is often ensured by having an Innova reception of goods terminal. The pallet is scanned when placed on the MS2010. Innova then knows the number of fish on the pallet and sends that to the MS2010.

When the pallet has been successfully scanned, Innova knows the following :

- Total number of fish on the pallet (Pieces).
- Weight of the fish on the pallet (Weight).
- Number of boxes on the pallet (CurAmount).
- Traceability number (lot, plot, PO or batch) is not implemented in this version.

If it is a two-sided robot, then the side is selected on the PDA after the pallet is scanned.

If the data is processed successfully by the robot, the fields on the PDA are cleared and it is ready for the next scan. In case of an error the Error page is shown.

The pallet is scanned either just before the forklift puts the pallet on the MS2010 or right after. A message containing Pallet ID, Lane, Number of Fish, Number of boxes, Pallet weight, and, optionally, a traceability number is sent to the robot.

Handling damaged boxes

If one or more boxes are damaged the operator needs to enter this on the robot panel including which box layer(s). The robot then stops at the damaged boxes and the operator manually de-palletizes the boxes. The robot sends the usual message for the damaged boxes as if the robot de-palletized them itself.

For Innova it doesn't matter if a box is damaged or not; it gets de-palletized and message(s) are sent.

Removing pallets from the MS2010

In case a pallet should not be fully emptied (e.g., production stops, switch to another product, etc), the operator uses the panel on the robot to remove the pallet(s). No special message is sent to Innova from robot. Moving the pallet back to storage is handled on the PDA.

Salmon palletizing and labeling solution

Development and hardening of the salmon palletizing and labeling solution continues. This solution delivers empty boxes to graders where whole salmon are graded and packed into the boxes. At various points the boxes are weighed, ice is added, and the boxes are labeled before being placed on pallets. A manual rework station and a manual packing station are also part of the solution.

It is unknown when this solution will be finalized and released.

Support for MAJA V-Cut 240 coming

Support for the MAJA V-Cut 240 is planned for the 5.9.3 release. To prepare for this, some work has already been done in 5.9.2.

Lite device support has been added to be able to test the V-Cut 240 and FPU. There is no Program editor for the V-Cut 240 and there are no special reports or dashboard components.

ATLAS

NOTE: This is customer-specific development, not to be installed at other customers.

Atlas isn't released yet but a number of changes in the system related to this project can be seen.

The ATLAS control system has been created for live bird handling in crates. The ATLAS system is built up by setting multiple modules together. In Innova, this includes the following:

- CAS Interface or CAS for ATLAS
- Destacker
- Hang-in
- Pallet-lift
- Stacker
- Take-off

- T-junction
- Tray-transfer
- Washer interface
- Stack transfer
- VDL interface (interface to system for automatically unloading trucks)

Innova for ATLAS is built upon the existing Inventory and Traceability modules. OEE can also be used.

Innova for ATLAS is scheduled to be released in version 5.9.3.