

Highlights

Warning about Innova for RoboBatcher Flex and version 5.8.1

Any systems upgraded to 5.8.1 will have an updated version of Innova for RoboBatcher Flex. However, the 0-series for Innova for RoboBatcher Flex will not be completed until March. For any 5.8.1 installations/updates where a RoboBatcher is present, this may increase the risk of finding problems or bugs.

Support from development will be on standby for those updates until Innova for RoboBatcher Flex has completed 0-series. In case of problems or bugs with Innova for RoboBatcher Flex, use the Innova service desk to request support.

New modules

The following modules are released in version 5.8.1. Click on each link for a detailed release note.

- [Innova Filleting](#)
- [Innova for FlexTrim](#)
- [Innova for RoboBatcher Flex](#)

Bugs in the release notes

For the first time in recent history (maybe ever), the internal release notes contains a list of bugs fixed in this version. Because of changes made in the way Innova Development works during the time since our last release, some of the bugs do not have a story (work item) associated in Azure DevOps. In the future this should be resolved. If you need information about a bug that has (None) in the work item column in the Bugs list, contact InnovaDocumentation@marel.com and we will give you what information we have.

Base

Fixed display issue with some reports on Innova Web

Some reports were missing criteria fields in Innova Web. SelectRecord CriteriaType was implemented for web including a Process.UI.StandardCriteria.RecordSelector web version to correct this issue.

IronPython scripts throw error

On the scripting form, when a IronPython script is selected, the form can throw an unhandled exception error. The problem is not in the IronPython scripts but the PowerShell 3 scripts. The error occurs when there are two different types of quotation marks used as shown in the example below.

```
$ValueProvider.GetValue("process.pack.material.pkcontentspecs.wpmethod");
```

The opening quotation mark is a Left double quotation mark (U+201C) and the closing mark is a Double universal quotation mark (U+0022).

All of the PowerShell 3 scripts should use only Double universal quotation marks (U+0022).

Support added for Honeywell CK7 and CN7 scanners

Support has been added for Honeywell CK7 and CN7 scanners.

Additionally, the IP address of the scanner and the Scanner ID is now displayed.

New configuration added for SendRecordonNextStable

Added a flag that indicates when requesting a record on a station the next stable weight from the scale is sent as a RecWeight message.

Configuration switch for report exporter to make multiple attempts added

The ReportExporter system program now has a configuration switch, NumberOfScheduleAttempts, that allows you to set the number of scheduled attempts that the report exporter will try to generate and export the report.

Checkweighing

Support for Ebatch added to G1000

Support for Ebatch has been added for G1000 checkweighers. This is available from 5.7.2 and greater.

Deboning

Packing accumulation station created

The PackingAccumulationStation was created as a special version of deboning workstations for packing which groups pieces by product, order and task, and filters products by active lot on the station. This is available from 5.7.1 and greater.

Some of the features of the packing accumulation station include the following:

- Ability to undo an item registration and restore items created
- Automatically record criteria tasks based on the recorded weight.
- Buttons can be designed (defaults are provided)
- Batch material on task line in cutting pattern overrides the material when recording on the station.
- Batch material is set correctly in stationunits.
- Don't display only order information if order is not completed.
- The Close lot button sets the lot to "completed". Any residual items on the station should be marked as missing (deboning items), their order reservations cancelled, and they removed from the station queue.
- The Next lot button changes the lot on the station to the next lot. The name of the next lot is displayed on the station. If the current lot has a pending lot, the next lot is the pending lot. If the current lot does not use pending lots, the next lot of a registered item on the station (when taken in order) is the next lot. Clicking the next lot button only changes the current lot on the station (and thus updates the list of available products), but it does not close the current lot nor delete/cancel any pieces. The button is disabled if there is no next lot and made available as a next lot becomes available.

Meat Performance Line InputStation improvements

The input operator needs to know when the scanned animal does not fit the current deboning lot. If the scanned animal does not fit the deboning lot, the operator is presented with a panel where he can choose a new cutting pattern. On Pattern choice confirmation a new deboning lot is created and the old deboning lot is deactivated or completed. When the new lot is created and/or the products created for an animal do not match the last recorded products, a Lot label is created.

To implement this functionality, the following improvements were made:

- After changing deboning lot status or before closing the lot, you can run an optionally configured unit operation on the deboning lot
- Unit operation ID is added to RevertDeboningOperation instead of deleting an item manually
- After recording an item, a check is performed to see if any items that were assigned to an order went over the order max count on an order with no limit
- If 2 item scanned has pieces > 1, duplicate the result of the deboning simulator
- InputStation now handles multiple "base" items
- Changed DeboningLotStatusView to use the controller so that it can be changed by inheriting controllers
- The designer now works with InputStationView
- A close lot button was added to the InputStation
- It is possible to filter cutting patterns based on item and cutting pattern root node material

Additionally, two new configuration options are available on the InputStationView: **ValidateAnimQaMarkNotStrict** and **AnimQaMarkLotFilterNotStrict**. These were created because the customer needs to be able to restrict registration of animals to lots using QA marks. Animals can have multiple QA marks since they might be eligible for multiple quality groups. With the implementation of these switches, all QA marks on an animal are checked against all QA marks on the lot. If one or more QA marks match, the animal is registered to the lot. The system does not validate a QA mark if the QA mark on the lot is blank (since the animal might have a QA mark which makes it eligible for other quality groups).

If no QA mark is set on a lot, all animals are allowed with or without QA marks set.

Additionally, the operator error feedback has been improved to return why an animal is not suitable for the lot by displaying information about the lot QA mark and QA marks set on the animal.

These changes provide the flexibility to set any QA mark field to any value and it will be evaluated against all lot QA marks.

Prompt to verify tattoo

It is possible to configure the in-registration station to prompt the operator to check and correct the tattoo number (in the case of a QA mark on the animal, for example). If the tattoo number is correct, the operator verifies. If the tattoo number needs correction, the operator can enter the correct one.

Additionally, a label with the tattoo number can be added.

Deboning QC works with WsServer

When a station has station type QC, the Ws terminal now works. This is available from 5.7.0 and greater.

Filleting line

Innova for Salmon Filleting

Innova for Salmon Filleting provides complete equipment control and real time monitoring to improve the overall performance of your filleting line, whether you use all or just some of the machines available.

A filleting line can include all or some of the following machines:

- MS2720 Deheader (1) - [MS2720 video](#)
- MS2730 Filleter (2) - [MS2730 video](#)
- Pinbone remover (not shown) Part of some lines, not connected to Innova
- MS1710 Skinner (4) Part of some lines, not connected to Innova - [MS1710 video](#)
- MS2920 Quality scanner (3 and 5)

Figure 1 Example filleting line

Depending on which machines and processes you use in your line, the workflow could be something like this:

1. The input to the filleting line is a gutted fish. The fish is placed in the deheader, which measures the fish and then uses a series of cuts to dehead the fish. It then cuts the shoulders to ensure optimum filleting and releases the fish to be measured for the tail cut. Finally, the tail is cut and the fish is released to the filleting machine.
2. The fish is automatically fed into filleting machine. The fish is measured to ensure optimum filleting performance. Optionally, the machine can cut back and belly trim. The fish is then filleted, resulting in two fillets (right and left). The center bone drops away onto a conveyor. Fillets continue down the line in 2 lanes.
3. The fillets move into a quality scanner where an imaging camera takes a picture and analyzes them visually and a standard vision camera is used to verify the profile of the fillets (length, width, height, volume, and gives an estimated weight).
4. The fillets continue down the line to the skinner where they are flipped and the skin is removed.
5. The fillets finally move to a second quality scanner where the skinned side is checked using an imaging camera that takes a picture and analyzes the fillet visually and a standard vision camera that verifies the profile of the skinned fillet (length, width, height, volume, and gives an estimated weight).
6. The fillets are now ready for further processing or automatic packing using RoboBatchers.

Data collected from the devices includes the following:

- The deheader provides the number of gutted fish collected.
- The filleting machine measures the difference of the belly height on both sides that indicates the quality of the gutting performance.
- The QC Scanners provide fillet quality measurements and an estimated fillet weight that can be used with the Innova Yield system for automatic yield collection.

Dashboards

The Belly height difference component for the MS2730 filleting machine shows the running average of difference in height between the left and right bellies when the fish comes into the filleting machine. This is useful for optimizing the gutting process that takes place before the filleting machine.

For the QC Scanner, the Top N Rejects component shows the percentage of rejects by reject reason in a bar chart.

Additionally, alarm dashboard components can be used for the MS2720 Deheader, MS2730 Filleting machine, and MS2920 QC scanner.

Reports

The Production overview report is the main report used for the QC scanner. The report provides a production summary for the QC scanner. This report is available for standalone QC scanners and line QC scanners. The report is a drillthrough report, meaning that by clicking on a number in the Total accepted fillets or Total rejects you will be taken to either the Preshipment quality report or Production quality report.

The Filleting overview report for the MS2730 filleting machine provides a production summary.

The Piece length distribution report for the MS2720 Deheader shows the distribution of the input products by length. This is useful for verifying that the lengths of the supplied raw materials are as expected.

Further information

For more information, see the Marketing specifications for the [NR5340](#) (Deheader), [NR5341](#) (Filleting machine), and [NR5342](#) (QC scanner) devices.

Import export program from CSV to QC Scanner

The QC Scanner in Innova has been improved with functionality to import programs from a CSV file into Innova and vice versa so that users can backup or import.

The CSV file must be selected manually from the machine. Innova presents a file dialog for the operator to choose which file to import/export. When importing Innova imports all programs in the CSV, always adding new programs. When exporting Innova exports all selected programs. There can be one file for each QC Scanner station.

Expanded number of alarms allowed

The QC Scanner can now accommodate more than 64 alarms if necessary. The 1167.AlarmState (Alarms) and 1190.State (warnings) fields can be repeated as needed when the device has more than 64 alarms. The first instance of each field will indicate alarm-

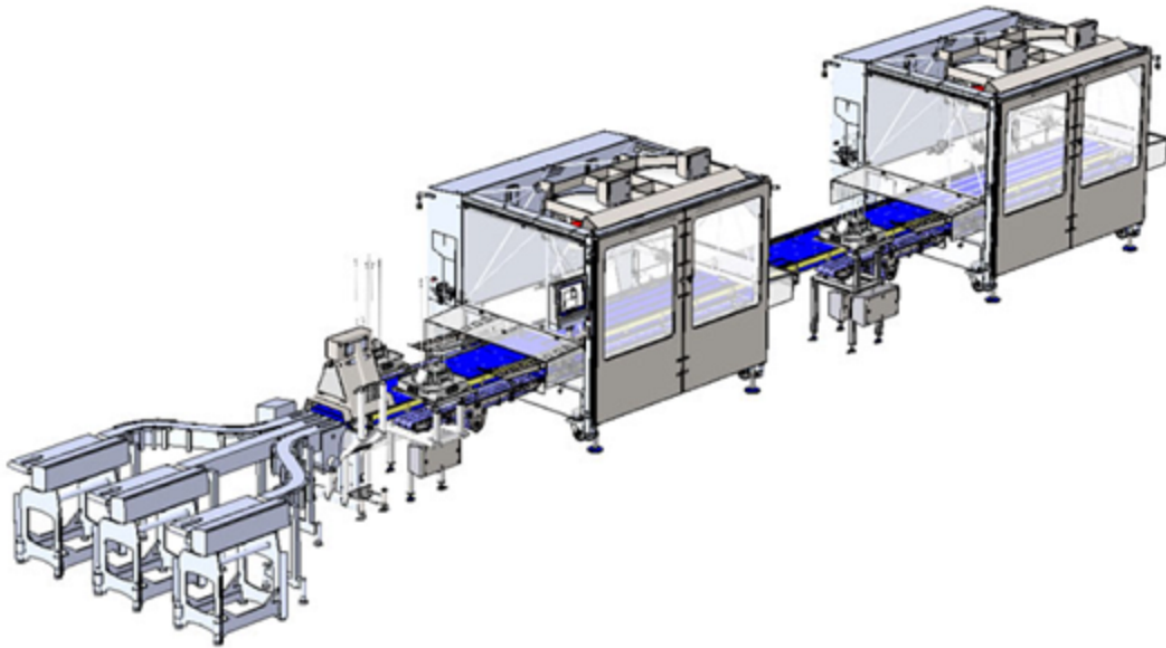
s/warnings number 1 – 64, the next instance alarms/warnings number 65-128, 3rd instance for 129-192 and so on.

The state of all alarms/warnings is indicated using a binary sum of all alarm/warning states. The first alarm is at bit 0 so that the binary value of the alarm is 2^{n-1} with n being the alarm number. Example: if Alarms 8 and 9 are on while other alarms are off then the binary sum should be $2^{8-1} + 2^{9-1} = 128 + 256 = 384$.

Grading

Innova for RoboBatcher Flex

Innova for RoboBatcher Flex is specially designed to control and monitor the RoboBatcher Flex equipment from Marel.



Innova for RoboBatcher Flex helps you effectively use incoming raw material and plan production to fulfill orders with the lowest possible giveaway and the highest efficiency rate. It enables remote changes and monitoring of the RoboBatcher Flex, as well as production reporting and dashboards, to help you:

- Minimize giveaway of raw material
- Maximize revenues of raw material
- Optimize throughput (balance giveaway and throughput).

Production control

Innova enables operators to remotely adjust the RoboBatcher Flex and/ or the whole line (if Innova is connected to all equipment on the line) via Innova from a central office. One

simple click can change the recipe for the entire line. Deviations from targets are clearly indicated so operators can respond quickly to gain the most value out of the raw material.

- Define and manage robot programs
- Import and export programs and recipes
- Create, edit and delete recipes
- Import tray patterns.

Reports

The following reports are available in Innova for RoboBatcher Flex:

The Giveaway and Giveaway trend reports help to minimize giveaway, thereby increasing production profitability. The target weight, recipe, and lot changes are clearly indicated, enabling operators to adjust settings to minimize giveaway.

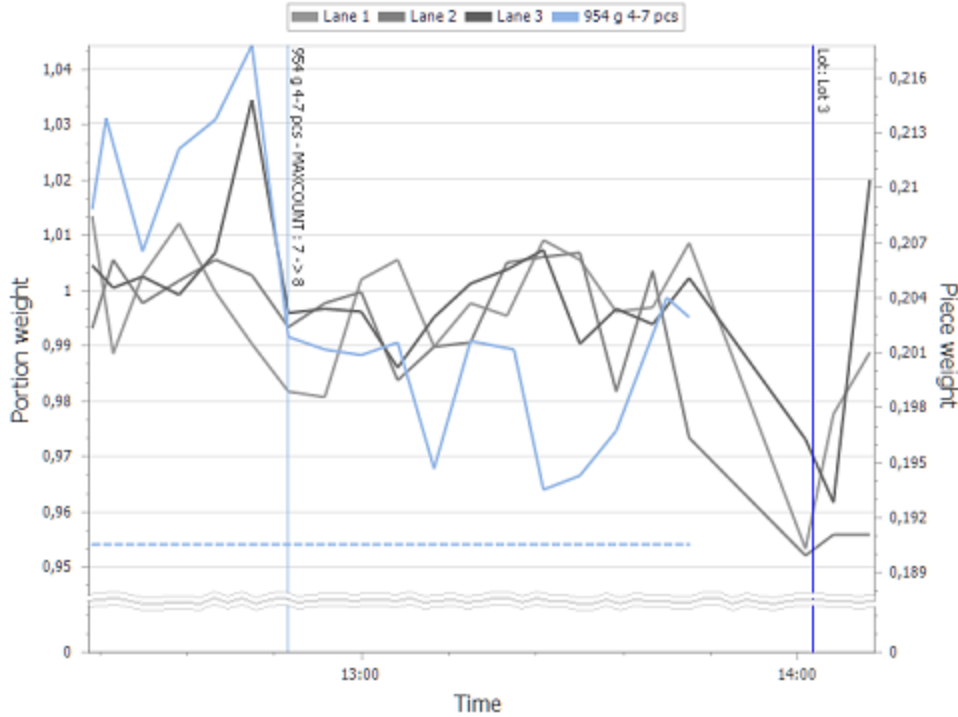
Giveaway trend



Date: 22-09-2017 12:00 - 22-09-2017 14:10

Date type: = Registration Time, Time resolution: = 5 Minutes, Break on product, Show input items, Showing input items per lane, Show quick adjust milestones, Show lot change milestones, Show recipe history

Product 954 g 4-7 pcs



Quick adjust

Time	Parameter	Old value	New value
12:50:00	MAXCOUNT	7	8

Recipe history

Time	Item min.	Item max.	B. min.	B. target	B. max.	B.cnt min.	B.cnt max.
09:22:47	90,000	330,000	939,000	954,000	1104,000	4,000	7,000
12:22:20	90,000	330,000	939,000	954,000	1104,000	4,000	7,000

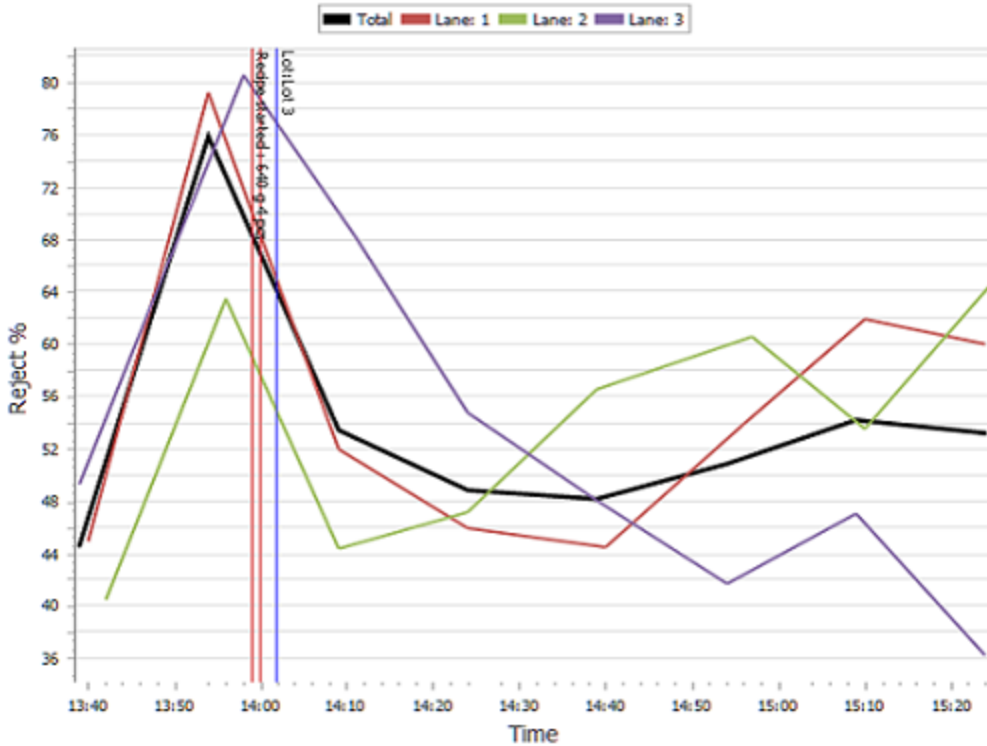
The Reject rate history report shows the reject rate and milestones for lot and recipe activities (recipe start/stop and quick adjust). In addition, reject reasons are highlighted below the graph. This information enables operators to respond quickly to minimize rejections and increase profitability of operations.

Reject rate history



Date: 22-09-2017 13:39 - 22-09-2017 23:59

Date type: = Registration Time, Time resolution: = 15 Minutes, Show lot change milestones, Show recipe activity milestones, Show recipe activity table, Show table, Show graph



Recipe activity

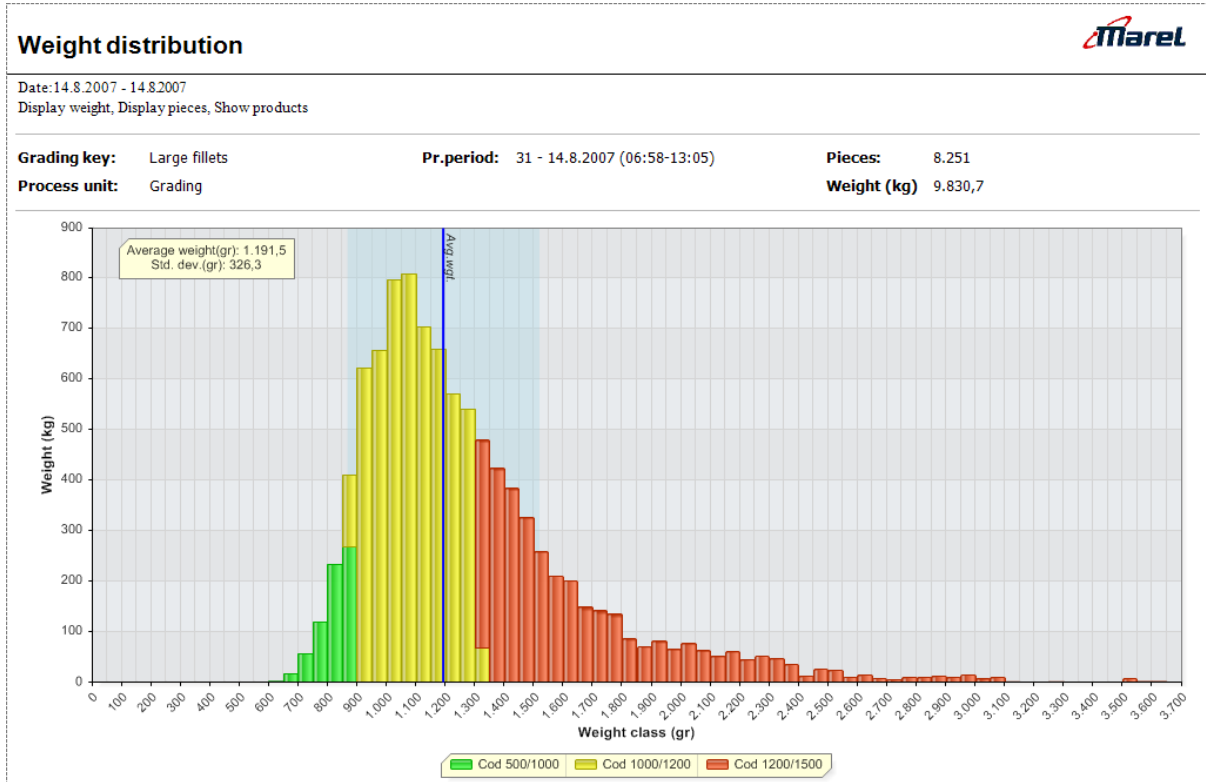
Time	Recipe	Activity	Parameter	Old value	New value
13:59:54	640 g 4 pcs	Recipe started			
14:00:01	485g MORR	Recipe started			
14:00:28	2pack split pot trial	Recipe started			
14:00:49	2pack split land	Recipe started			

Reject reasons

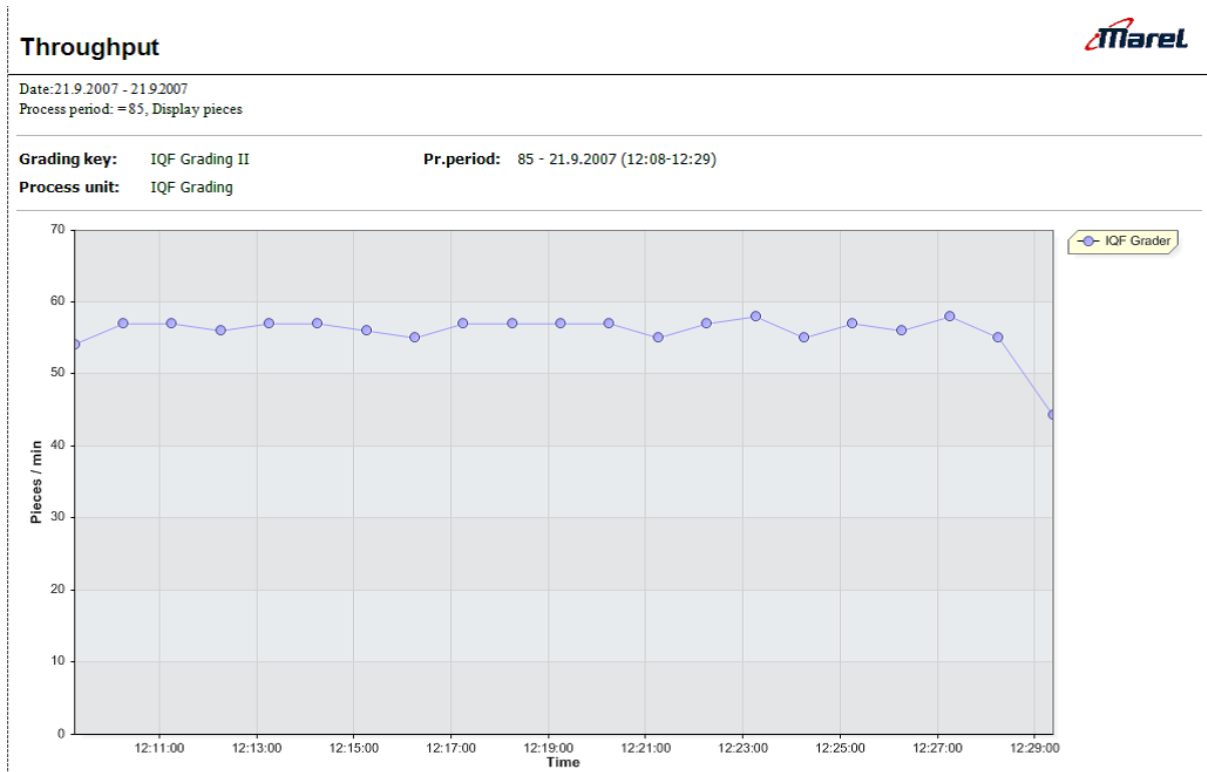
Description	Count	Distribution %	Reject %
Job not found	1299	100,0	62,4
Recipe: 765 g 3-5 pcs - Quick adj. at 12:49:52	1299	100,0	62,4
Job not found	111	100,0	100,0
Recipe: 640 g 4 pcs - Start at 13:59:54	111	100,0	100,0
Job not found	64	1,2	0,6
Grade not found	4291	81,8	42,3
Statistical allotment too bad	893	17,0	8,8
Recipe: 2pack split pot trial - Start at 14:00:28	5248	100,0	51,7
Total	6658	100,0	53,9

The Weight distribution report shows the weight distribution of the incoming graded material. This information enables the operator to monitor weight distribution from different sup-

pliers as well as providing valuable input regarding production planning and product allocation.



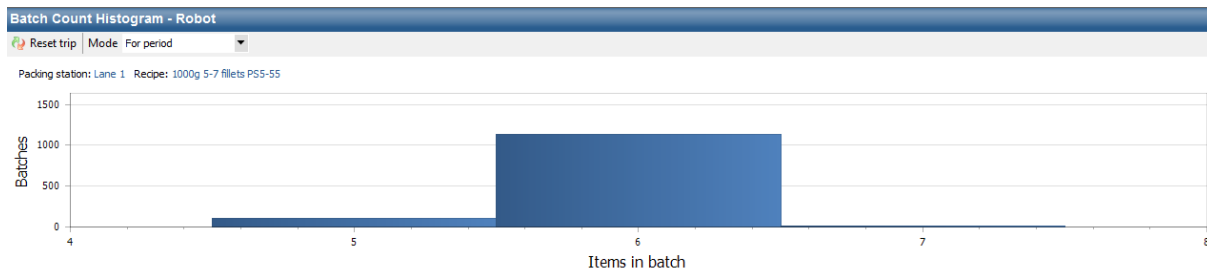
The Throughput report displays the device's throughput on a chart. The report can be shown either as pieces per minute, weight per hour, or combined.



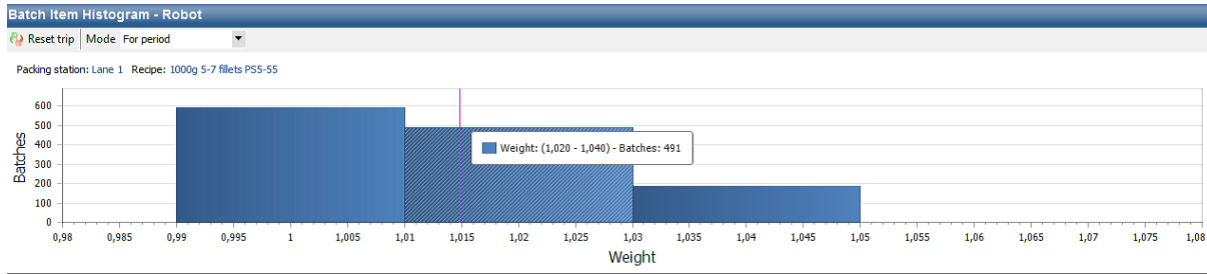
Dashboards

There are a number of live dashboard components that provide a real-time production overview, enabling operators to react quickly to improve line efficiency. Combine the components that are most meaningful to you on a single dashboard for easy monitoring of the line.

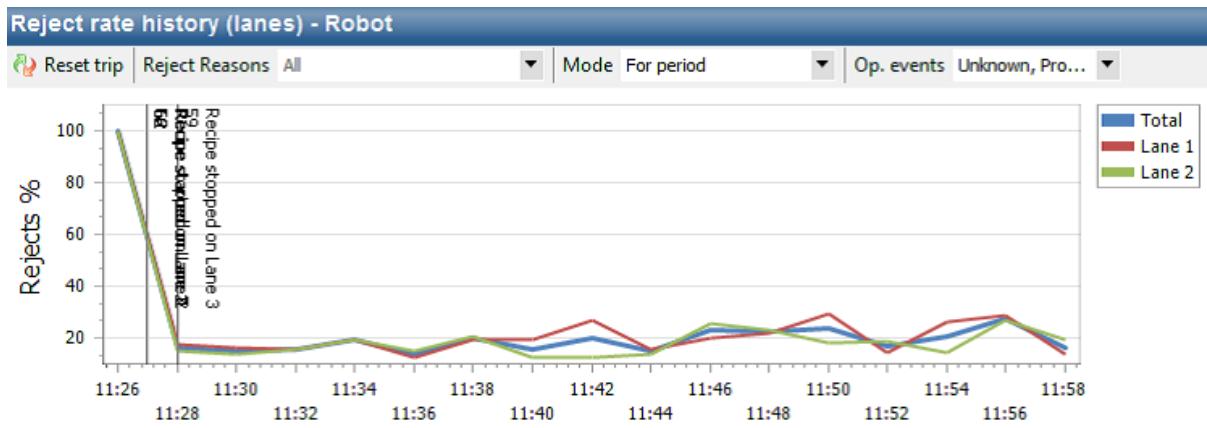
In order to maximize raw material use and to plan the right bird size, it is important to know how many fillets are used in each tray. The Batch count histogram component shows the number of batches produced with each item count.



The Batch item histogram shows the number of batches produced in each weight class. This information is important in order to optimize production planning and product allocation.



The Reject rate history shows a history of the reject rate per lane with percentages. The graph shows data from the current process period. A trip counter shows the percentage of rejected pieces since last reset.



The Product monitor shows live product and batch data for all lanes/bulk bins in the main RoboBatcher program. A trip counter shows the data since last reset.

Product monitor - Robot																
Reset trip																
Product									Batches							
Packi...	Prod...	Min ...	Max ...	Batc...	Batc...	Batc...	Batc...	Batch...	Batc...	Weight	Give...	Give...	Give...	Give...	Avg....	Avg. ...
Lane 1	1000...	132g	240g	1000g	1000g	1050g	5	7	465	475,...	10,892	2,29 %	10,892	2,29 %	5,886	5,886
Lane 2	1000...	132g	240g	1000g	1000g	1050g	5	7								
Lane 3																
Bulk ...																

The Distrubtion monitor enables you to select the recipes to run on the RoboBatcher Flex lanes and bulk bins, start the recipes, and adjust some settings for the running recipes. Once the recipes are running, data is shown for the running recipes.

Distribution monitor - Robot												
Reset trip												
Product								Pieces		Batches		
Packing...	Recipe	Weight ...	Priority	Item type	Quality	Compet...	Disposit...	Distribution	Throug...	Throug...	Throug...	Throug...
Lane 1	400g 4 ...	90-130g	5		1,2,3,4,...							
Lane 2	420g 3 ...	130-160g	5		1,2,3,4,...							
Lane 3	450g 3 ...	140-170g	5		1,2,3,4,...							
Bulk 401												
Bulk 402												

The Infeed monitor shows the number of infeed pieces grouped by lane. A trip counter shows the number of infeed pieces since last reset.

Infeed monitor - Robot										
Reset trip										
Input	Avg. weight	Avg. weight last 2 minutes	Reject %	Reject % last 2 minutes	Throu... kg	Throu... kg last 2 minutes	Throu...	Throu... last 2 minutes	Weight	Weight last 2 minutes
Input 1	0,170	0,170	22,78 %	22,78 %	8,877	8,877	52,369	52,369	284,257	284,257
Input 2	0,169	0,169	20,32 %	20,32 %	8,816	8,816	52,242	52,242	282,329	282,329

The Reject monitor shows the number of rejected pieces grouped by reject reason. A trip counter shows the number of rejected pieces since last reset.

Reject monitor - Robot				
Reset trip				
Reject reason	Total	Total %	Trip	Trip %
Item is not rejected	2.710	78,64 %	2.710	78,64 %
Job not found	721	20,92 %	721	20,92 %
Weighing error	15	0,44 %	15	0,44 %

RoboBatcher Flex improvements

Innova for RoboBatcher Flex has been improved with the addition of a Quick Config to ease installation and configuration. The Quick Config installs all necessary functionality and provides full flexibility for gate setup that reflects the customer's physical setup.

In the Robot program editor, it is now possible to set a default unit operation in the Product setup. This prevents you from needing to switch to another form to set the default unit operation.

And finally, quick adjusts to the Cut settings are now possible in the Product Monitor dashboard component.

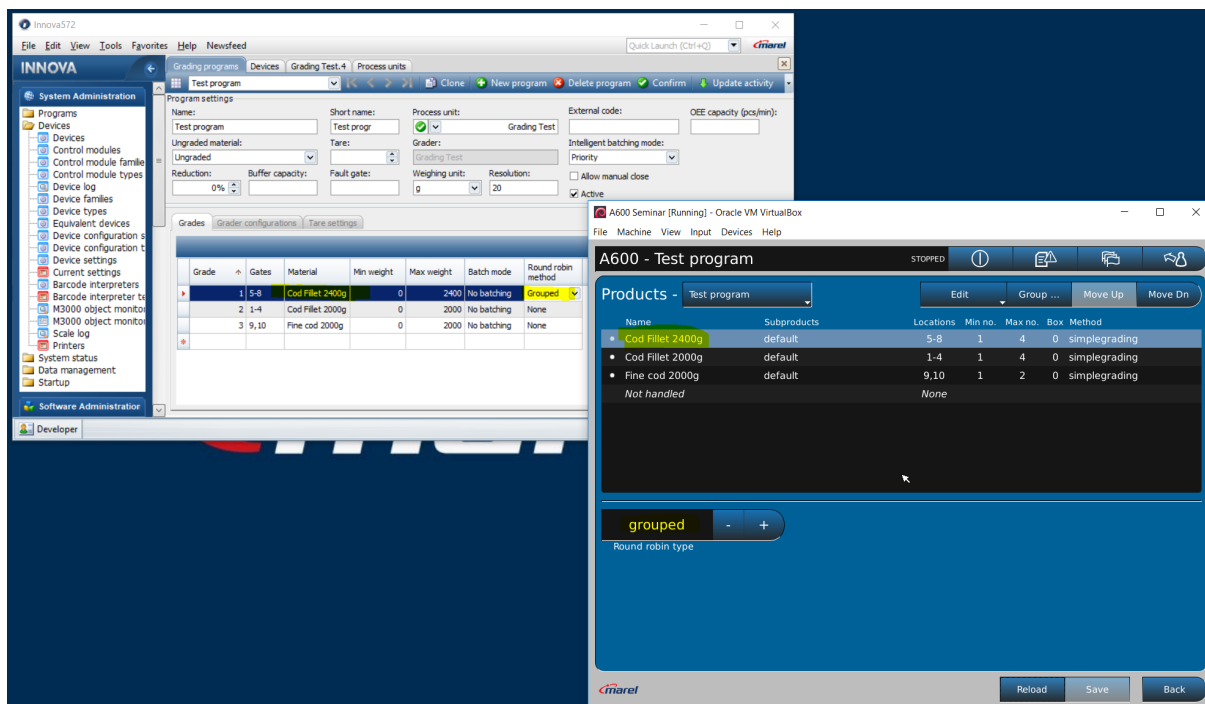
Grading program import rounding issues

When importing grading programs that are in pounds (and possibly ounces) the grade min and max weight are imported with a very long decimal value and are not the exact value that is displayed on the machine. This affects M3000 and A600 imports.

This has been fixed from 5.7.0 and greater.

Grouped round robin added to simple grading

The grading algorithm has been changed to accommodate a new option in round robin mode for simple grading on the A600. Now the Round robin methods include none, piece, and grouped.



Support for piece type on reject gates added

From 5.7.2 and greater, there is support for piece type on reject gates.

Implemented Logiflex Takeaway for graders

A new plug-in has been created to connect to Logiflex devices to graders. The plug-in is automatically attached to the grader. This plug-in solves the challenge of having a single Logiflex device which tracks boxes from one or more multiple graders. The plug-in makes it possible for Innova to link the batch ID with a pack ID and also download the tare of the pack.

Integration Services

File report exporter error corrected

An error was discovered when exporting POs and PO lines with the FileReportExporterHandler. The error was caused by an underlying problem in the BaseExportHandler in version 5.7.1.

To fix this, a LegacyMode property was added to the PurchaseOrderExportConfig and PurchaseOrderLineExportConfig. If a system has been relying on this bug, then setting the switch to true will workaround it. This error is fixed in later versions of Innova, so this switch is removed.

Kill floor

Process terminal missing next animal information in screen label

After an upgrade, fields on the IPC that began with "killfloor.animals.nextanimal..." contained no information. This has been fixed by checking in the missing code. Changes have been merged back to 5.7.1.

Kill floor improvements

A new field control was added to the Sequencing station, the CombinedSICodeIdCodeControl. The control looks up animals in the system from both the SIColor and IdCode fields. These fields must match for the animal to be found.

Additional changes were made in the sequencing station, including:

- Better error handling and more information displayed to the operator.
- Multiple bug fixes.

Better support has been added to Classification station for recording two sides of an animal. It is now possible to record each side separately. Each side is weighed separately and a unit operation is executed for each side.

Additional changes were made in the classification station, including:

- Support was added for more warnings to the operator. For example, if a specific field is empty, the operator is alerted but he can continue. Before a executing a unit operation it's possible to execute a warning script to check some issues before the classification is recorded.
- Support was added for buffered weight handling on the station.
- Better error handling and more information displayed to the operator.
- Multiple bug fixes.

Additional changes in the Slaughter line module include:

- The user message field control can now be controlled via script.
- Issue where a red X would appear in fields on IPC was fixed.
- Better error handling and more information displayed to the operator.
- Multiple bug fixes.

Monitoring

Changed order by for four reports

Four alarm reports have been made configurable with the addition of an enum where the order by can be changed:

Marel.Mp5.Monitoring.Reports.Top10Events.Top10Event

Marel.Mp5.Monitoring.Reports.Top10.Top10Owner

Marel.Mp5.Monitoring.Reports.Top10.Top10AlarmGroup

Marel.Mp5.Monitoring.Reports.Top10.Top10Oee

Default should be as it is today.

OEE

OEE improvements

The Event editor can now be configured to allow changing the stop reason at all times and in all circumstances.

Bad shackle report added

The bad shackle report is a report where the user can see which shackles have been marked as bad on a given day.

By default the current day is selected. If you select another day you will see the state of the bad shackles at the end of that day.

The registration time shows the time the status of the shackle was last updated. This might not be the actual time the shackle was first detected as broken.

Bad shackle

INNOVA

Entity: = Chillline OEE

Carrier Id	Registration Time
470	1/9/2019 11:45:14 AM
731	1/9/2019 11:46:10 AM
987	1/9/2019 11:47:13 AM
1322	1/9/2019 11:48:33 AM
1848	1/9/2019 11:50:41 AM
3063	1/9/2019 11:55:28 AM
4748	1/9/2019 12:02:09 PM
4845	1/9/2019 12:02:38 PM
6047	1/9/2019 12:07:24 PM
7075	1/9/2019 12:11:27 PM
8023	1/9/2019 12:15:16 PM
9702	1/9/2019 12:21:57 PM
9836	1/9/2019 12:22:26 PM
10701	1/9/2019 12:25:56 PM
11892	1/10/2019 4:42:50 PM
13031	1/10/2019 4:47:27 PM
13091	1/5/2019 11:58:28 AM
13533	1/10/2019 4:49:24 PM
14850	1/10/2019 4:54:37 PM
15038	1/14/2019 1:26:47 PM
15265	1/10/2019 4:56:14 PM
15744	1/10/2019 4:58:12 PM
16188	1/10/2019 11:45:49 PM
16789	1/10/2019 2:00:27 PM
17249	1/10/2019 5:04:14 PM
17685	1/10/2019 2:04:04 PM
19366	1/10/2019 2:10:41 PM
19437	1/10/2019 2:11:01 PM
19505	1/10/2019 2:11:16 PM
19521	1/10/2019 2:11:22 PM
20103	1/10/2019 2:13:41 PM
20134	1/10/2019 2:13:48 PM
20316	1/10/2019 2:14:30 PM

Packing

Fixes to UltimateMWStation

Two limitations in the UltimateMWStationCE have been fixed.

First, if a manual tare input field is shown the value is propagated to the RecPack message. The taretype is System. There is no configuration switch for this, only check that ManualTareField input is visible and has a value.

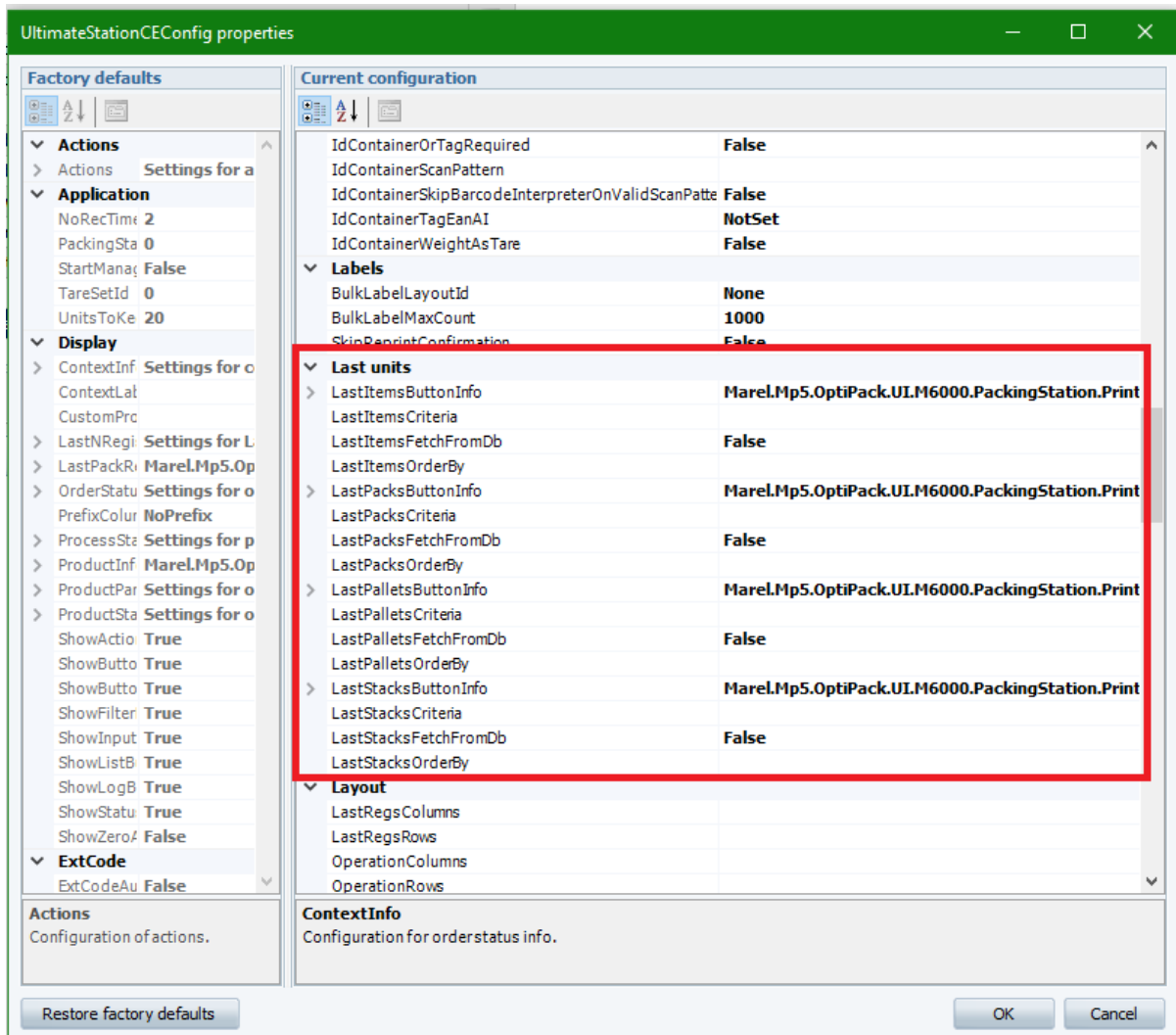
Second, when an operator changes the weight (there are actually two ways of doing that in the UltimateMWStationCE), the weight value is propagated to the SizeFilter (size weight filter) so that the UltimateStationView will utilize the normal filter. This is done by sending a RecWeightStatus to the view whenever an operator changes the weight (and also after a record is done etc). There is a check to see if size filtering is active before sending a RecWeightStatus to the view.

UltimateStation improvements

Last units can now be loaded from the database. Set the LastPacksFromDb configuration flag to true on the UltimateStationCE configuration.

It is possible to set a specific OrderBy and Criteria when loading the last units from the database. Use the LastPacksCriteria and LastPacksOrderBy configuration properties in the UltimateStationCE configuration to do this.

It is also possible to configure the button text on the LastUnits, using the LastPacksButtonInfo configuration property for the packs. Use lastpack as the root object; to get the extcode of the pack use 'lastpack.extcode'.



PO and PO lines on active process unit shown

It is now possible to show the PO and PO line on the process unit active PO in context on the Ultimate packing station and the Ultimate MW packing station to show the progress of orderlines on the product buttons in the grid. This is available in 5.6.0 and in 5.8.1 and higher.

TapGateController improved with extension for M2200 to display list of received messages from Tap

A new option has been added to the TapGateController when using an M2200 screen. The screen provides a list of products to select. At the start, the screen will be empty. When a new MsgTapGate (1297) message is received, the recipeMaterial is used to find a material

record. Additionally, field 99 (FlockId) is used to look up a proc_lot - where slday = CurrentDay and flocknumber = <FlockId>.

When a new combination of product and lot is received, a new line is added on the screen along with the weight from the message. Operators can select a line (combination of product and lot) and make the recording as is currently possible today. The operator can also clear a chosen line. Optionally, the operator can clear all lines (product + lot).

The lot from the chosen line is populated to unit OperationData.UnitLotOverride.

Integration to Skaginn 3x palletizing system created

An integration between the Skaginn 3x palleting system and Innova has been created. The integration provides the palletizing system with station configuration information and provides Innova with production data.

Innova provides information to the system about the station configuration. The Palletizing system provides information to Innova for each package sorted.

PDS

PDSNT Migration failure issue fixed

An issue was fixed in which the migration failed when no PDSNT table was available in the SQL server instance.

Portioning

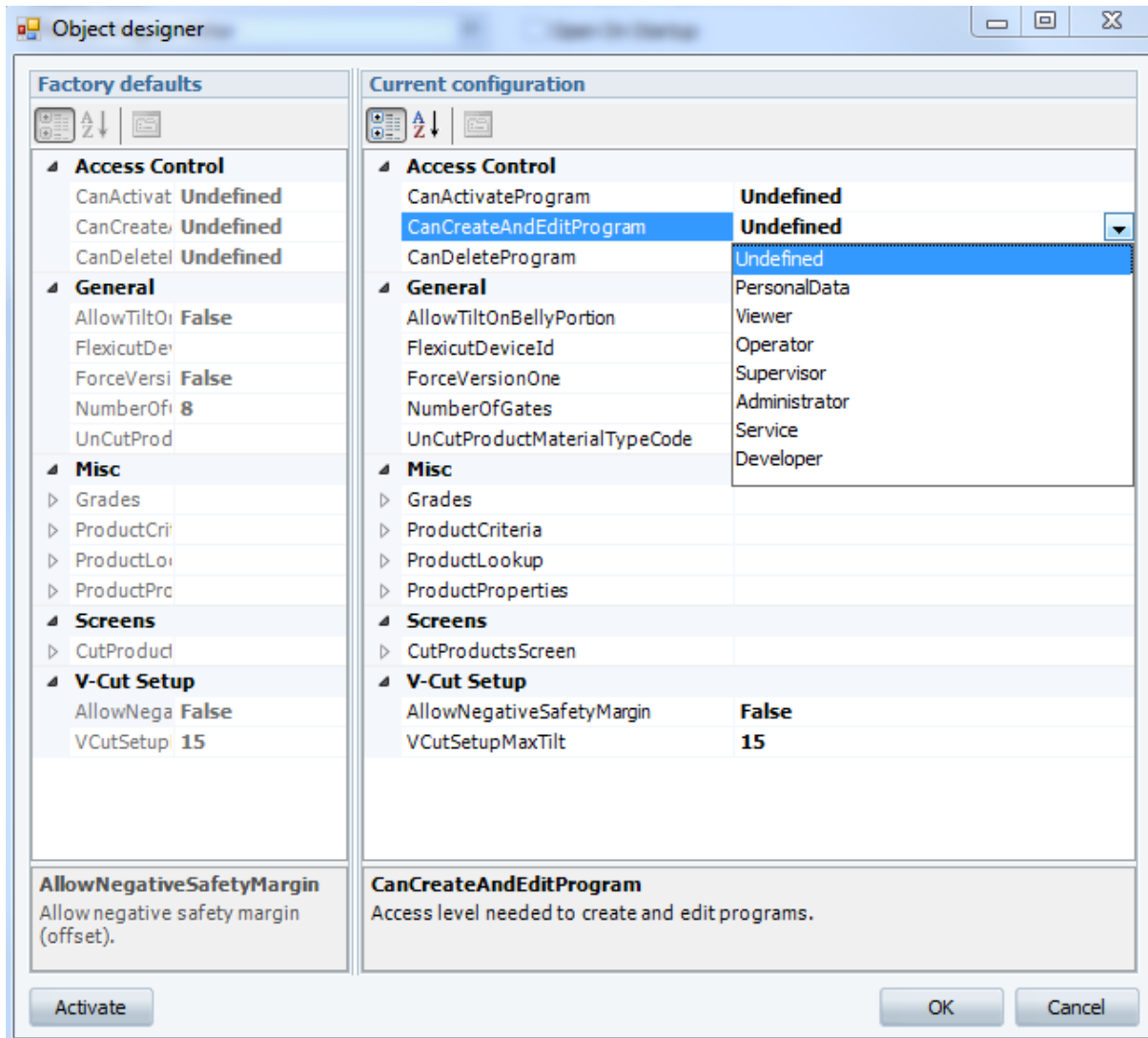
Local knife offset option added to More Settings tab in Portioning programs

It is now possible to use a local knife offset for portioning programs. The value range is from -10 mm to +10 mm. A positive offset will make the knife wait longer before cutting.

The offsets are used for ICut-11, ICut-122, ICut-130, ICut-610. For the I-Cut-122 there is an offset field for each lane.

FleXicut improvements

Access control has been added for the FleXicut program editor.



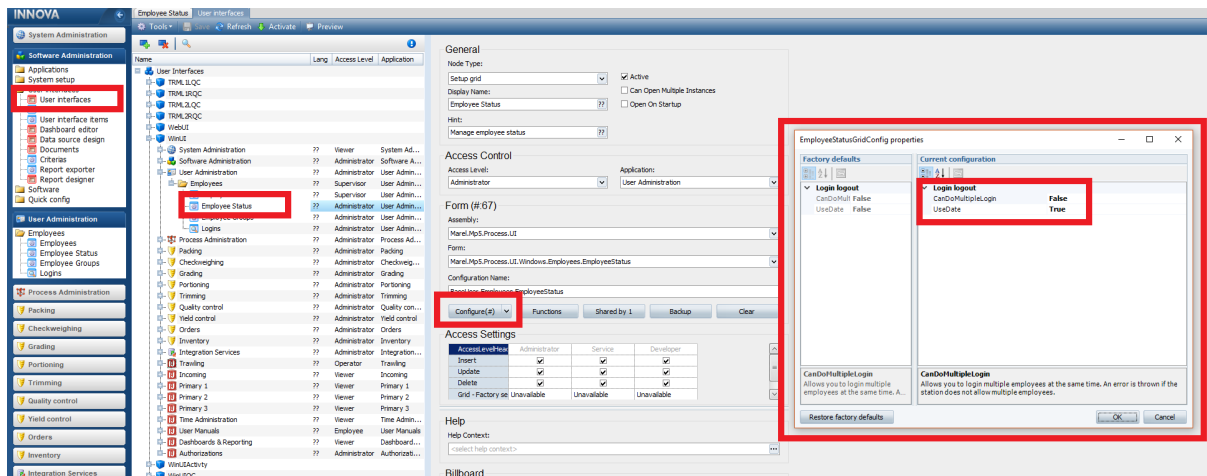
Additionally, a new configuration parameter, ForceVersionOne, allows you to configure whether Innova will always take the program setup from the Flexicut regardless of what is used in Innova.

The behavior of the Use knife has been changed so that it is synchronized with the behavior on the machine. You should only use the V-Cut enabled option.

Process

Multiple employee login to station

It is now possible to configure Innova to allow a user to log in multiple employees to a station and choose the date and time for the login. To enable this, you must configure the CanDoMultipleLogin setting in the Employee status form. If you wish you use the date and time login option, you must enable the UseDate option.



If the station does not allow multiple employee login, a prompt appears.

RailUnitOpCE improvement

RailUnitOpCe has been improved so that it should search by UPID when RFID is 00000000000000000000.

Added ability to configure recording method on unit operation station

The ability to configure the recording method on the UnitOperation terminal has been added. It can be set per Operation.OperationRecordingMethod, UnitSetup.UnitSetupRecordingMethod or CE.RecordingMethod level.

The OperationRecordingMethod has the highest priority, then UnitSetupRecordingMethod and finally RecordingMethod. By default they are set to empty, meaning it will use Manual recording method.

This functionality is available in 5.7.2 and greater.

QC

Resolution type added for Non-Conformity Resolutions

A Resolution Type column has been added to the Non Conformities form in the Corrective actions details form. Resolution type has the values Temporary and Permanent. If a temporary corrective action is selected, then the inspection will be saved as In progress rather than Completed. If a permanent corrective action is selected, then the inspection will be completed.

For example, if a product was labeled incorrectly, the immediate corrective action would be to rework\downgrade or place the product in a specific inventory. The long-term resolution for the same non-conformity would be a change\update to the label design.

Resolution type solves the need to raise a second non-conformity.

Recipe

Multiple process units on step enabled

It is now possible to assign multiple process units to a recipe step so that multiple process units can be used to perform a step.

Printer configuration for controller extension to override other printers

A printer configuration for recipe station that overrides printers in unit ops has been added. This was done to allow the user to configure specific printers to be used for specific stations since the unit operation doesn't distinguish between recipe stations. So, for example, if you want printer A to print labels for station A, and printer B to print labels for station B, then this would be used to override the printers configured for the unit operation.

The standard behavior is OK if you only have one printer, or you don't care which printer is used.

Double confirmation configuration added

A configuration for recipe station has been added to configure the station to use double confirmation for input and production steps. This change was done to prevent the user from accidentally completing an input step where nothing has been recorded. For example, if the lower tolerance is 0, then that means it's OK to record nothing. In this case, it is simply confirming that you do want to complete the step. If nothing has been recorded, then the pop-up contains an extra sentence to make sure the operator is aware that nothing has been recorded.

When set, a pop-up window appears before completing an input step on the IPC/PDA that asks you to confirm if you want to complete the step.

Recipe system improvements

The customer query has been optimized and some indices added: porder in proc_matxacts and active, iscustomer in base_companies. You can run the following statements on the database to set the indices:

```
CREATE INDEX ix_proc_matxacts_porder  
ON proc_matxacts (porder);  
CREATE INDEX ix_base_companies_active_iscustomer  
ON base_companies(active, iscustomer);
```

An IncludeCustomer configuration has been added to the Recipe batches (Marel.Mp5.Process.UI.Windows.Recipes.Batches.ControlRecipes) interface item where you can choose whether to include the customer drop-down or not in the Create batches dialog. If you set the IncludeCustomer config to false, the query will not run at all. If you are not using the customer drop-down it is recommended to set this configuration parameter to false.

These improvements are available from 5.7.2 and greater.

SensorX

Possible to integrate TMO System with WMS

In its simplest configuration, a TMO system with Innova does two things:

- Collects registrations of processed material
- Creates pack registrations of completed batches and prints a label

Currently, the action of completing a batch is performed on a SensorX terminal; this triggers a batch message to Innova.

With this new functionality the customer is now able to:

- Trigger the completed batch from there own system
- Receive the batch information (to print their own label, for example).

Multiple output bins may be in use so when a batch is complete the next one can be started immediately, for example. The operator can then key in additional information in the WMS, if needed, and then request the batch information to complete the recording.

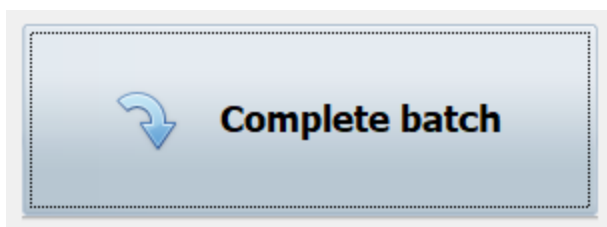
This is achieved by using a socket connection that the WMS system connects to and can issue a command to complete and receive info for the batch.

On receipt of this command message a ReqCompleteBatch command is sent to the SensorX. This triggers the batch information to be sent to Innova and a pack record created. Information on this new batch is then sent back to the WMS in a data message.

The command contains an identifier or station number which is included in the response message. Stations will be defined in Innova for each fill station.

New Complete batch dashboard component created for TMO

A new dashboard component, Complete Batch, allows the operator to complete the batch with a single click.



Slicing Lines

Salmon slicer adjustments to active program do not cause program change or new process period

Modifications of the active program on the slicer will not cause a program change or new process period as long as the weight limits (min., max, nominal weight and tare weight) are unchanged.

Solutions

Crate logistics system created for BoxSorter

A crate logistics system has been added to the existing Box Sorter functionality. To accommodate this, a number of changes have been made.

First, support for TSTA and TFUL MPS messages was implemented. This allows communication to/from the device driver. The messages are implemented in `Marel.Mp5.Solutions.ThirdParty.Mps.Services.WmsDataPacketV2`.

The `RailUnitOpCE` can now receive and handle the `RailLocation.HookReadAtLocation` event from the `IRailLocation (WmsConveyorLocation)`. Previously, the `RailUnitOpCE` only acted on the `TriggerAction`. In order for this solution to work it also needed to act on the `HookReadAtLocation`. This event supplies barcode/RFID and `uniqueId` in a similar way as the `TriggerAction`. This means that the station behaves exactly the same when it receives a `HookReadAtLocation` as it does when it receives a `TriggerAction`. After a successful execution of the UO the station should not send any response command.

The `WMSConveyorLocation` device driver layer has been added to `BoxSorter.exe`. It receives a `TSRD` message which results in the `TriggerEvent`. The `BoxSorter` must then send the destination for the box by calling the `RailLocation.DoRespondToTriggerAction(...)`.

Optionally, `WMS` destination gates need to know how to react to `TSTA` messages. This might require a gate type column.

Since `BoxSorter` requires a device in system setup, the `WmsConveyorLocation` device driver layer must look up the correct conveyor location in the `proc_raillocations` table.

An `OrderLineDestinationPlugin` has been added to `Box Sorter`. This plug-in helps the `BoxSorter` determine whether a box should go to a particular gate by looking at the packs order line (or packs production order line) owner column. The owner of the order line maps to a particular gate. A static map in xml configuration maps an owner with a destination. This plug-in behaves in a similar way to the `OrderPickerDestinationPlugin`.

Using the batching functionality on a BoxSorting gate

The `Box Sorter` counts the number of packs or summarizes the weight (and accumulates the weight of them/product/lot etc) until the expected `proc_materials..packsize` (and pack-

sizeum) is reached. Then a UO is executed with correct operation data. Expected batch size is stored in `proc_materials.packsizesizeum`. Order lines can override the amount.

Once the target amount is reached the gate is blocked for further products logically and physically (TFUL message sent to the PLC). A unit operation must be executed with correct operation data members. The gate is closed until it is opened again with a TSTA message from the PLC.

TSTA messages can control the availability of the gate. It can be On/Off/Error/Out of Order-/Empty/Full. The state of the gate must be zeroed out when receiving appropriate TSTA messages, and optional label printed.

The working sequence at the tipping stations is as follows:

1. A crate arrives at the position in front of the first tipping station.
2. The RFID tag is read and a telegram with the RFID tag is sent to the WMS system (TSRD).
3. The WMS system answers with a destination of one of the tipper. (TSOR)
4. The crate is transported from the waiting position toward the first tipping station.
5. The data belonging to that crate is copied to the first tipping station.
6. The destination of the crate is checked with the location number of the tipper.
7. If the destination is equal to the location, the crate is tipped and the crate number is sent to the WMS. (TSSM) If the destination is NOT equal, the crate is transported to the next station.

When a batch/box is full, there two ways to start a batch/box change:

1. From the WMS with a TFUL telegram
2. The employee presses a button (TSTA with status 50)

When the employee changes the box or is ready for a new order, a button is pressed and the PLC sends a message. (TSTA with status 54)

Weighbridge validation changes

The Weighbridge functionality has been changed to have the WeighBridge form use weights of the units assigned to the shipment instead of the weights assigned to the order. All calculations of expected weight and actual weight only take into account pallets and packs that have been scanned to the shipment.

The changes are activated by configuration.

SPacker improvements

A configuration to use a PackOffset to find pack has been added to the Spacker plug-in.

Additionally, in some Spacker solutions it is required that created batches are kept at the gate for a specified period after the batch is complete. It is required that this period, specified in minutes, be assignable per product.

Therefore a HoldPeriod column has been added to product settings tables and forms. The period is specified in minutes. The grader requires the holdperiod to be specified in an R-Variable, one for each gate. Gate 1 → R-variable 1, etc.

When Innova receives a message of a started batch (Msg: 16003) it gets the gate number and can write the holdperiod value to the correct R-variable. If no holdperiod value is set for a product then Innova will write 0 to the R-variable. The grader is responsible to clear the correct R-variable when a batch is either completed or terminated.

This functionality has been implemented as a plug-in in the Innova Spacker solution. This solution is available from 5.7.1 and greater.

Trimming

Innova for FlexiTrim

FleXitrim is a trimming line that delivers fillets so that natural and filleting defects are manually removed before the fillet is weighed and released back into the process. It is suitable for untrimmed whitefish fillets. In some lines, left and right fillet is separated so Innova always knows that even numbered stations receive the “right fillet” while odd numbered stations receive the “left fillet” coming from the filleting machine. This gives the possibility to better adjust the filleting machine, for example if it is filleting too narrow or too wide.

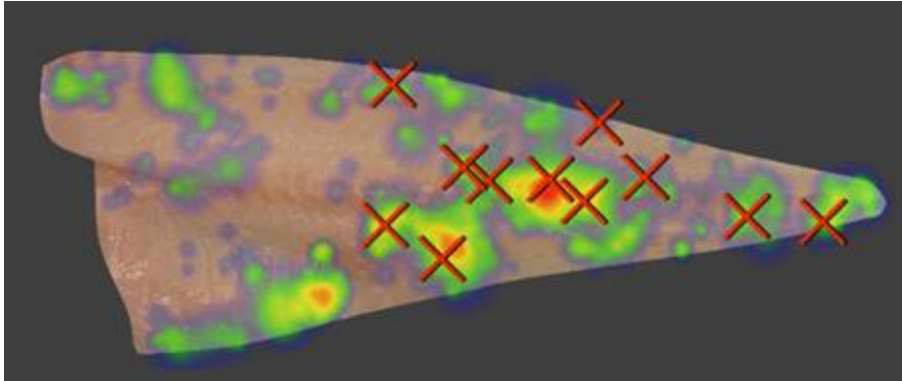


FleXitrim offers individual performance monitoring for yield, throughput and quality. And FleXitrim enables streamlined infeed to FleXicut.

A particularly unique feature for FleXitrim is the automatic bone detection (QC) done by the FleXicut machine which reports back to Innova that it has found a bone/contaminant from a certain employee or station. This is registered as a QC inspection in Innova; the number of bones found and where they were found is recorded.

Another powerful unique feature is what we call heatmap. Each employee working on the station has a small terminal with where Innova is showing performance information, including a picture of the fillet, showing where the flexicut has found bones. The heatmap shows density of bones detected in the left or right fillet, or both sides.

On the terminal it is possible to see a heatmap of bones detected within in last X number of minutes using the configurable buttons on the screen. It is also possible to show the heatmap by employee and apply a number of filters.



The image above shows a fillet that contains bones and, as the day goes by, it colors the fillet with the frequency of how often it has detected bone and at what location on the fillet. So locations get more red as more bones are found. This information tells the operator to focus on a specific area on the fillet. There is a higher possibility that bone is at that location. This also tells the supervisor that he needs to adjust the filleting machine, maybe the right side of the machine needs adjustment or the left side, depending upon where the bones are frequently detected.

The cross (x) on the image is telling the operator that is has detected bones at this location in the last X minutes where X is configured to certain intervals.

Support for SensorX and A600 with QC added

Support for a trimming line with SensorX and A600 with QC has been added.

Support added for button readers in trloutterm

TrlOutterm.exe can now be configured to use ID bricks for employee selection.

To turn on the feature set the xml property **UseIdButtonReaderForEmployeeSelection** to True.

Be aware that **UseIdButtonReaderForEmployeeSelection** and **UseIdButtonReader** cannot both be set to true.

This feature is available in 5.7.2 and greater.

Trimming QC station button configuration added

A new configuration switch, AllowPieceOKButton, has been added to the Trimming QC IPC station. If the switch is set to true, the QC operator can directly click on "Piece OK" in the screen where he sees his pieces waiting on the table. This significantly reduces the time and button clicks for OK pieces. An OK inspection is recorded on the button click.

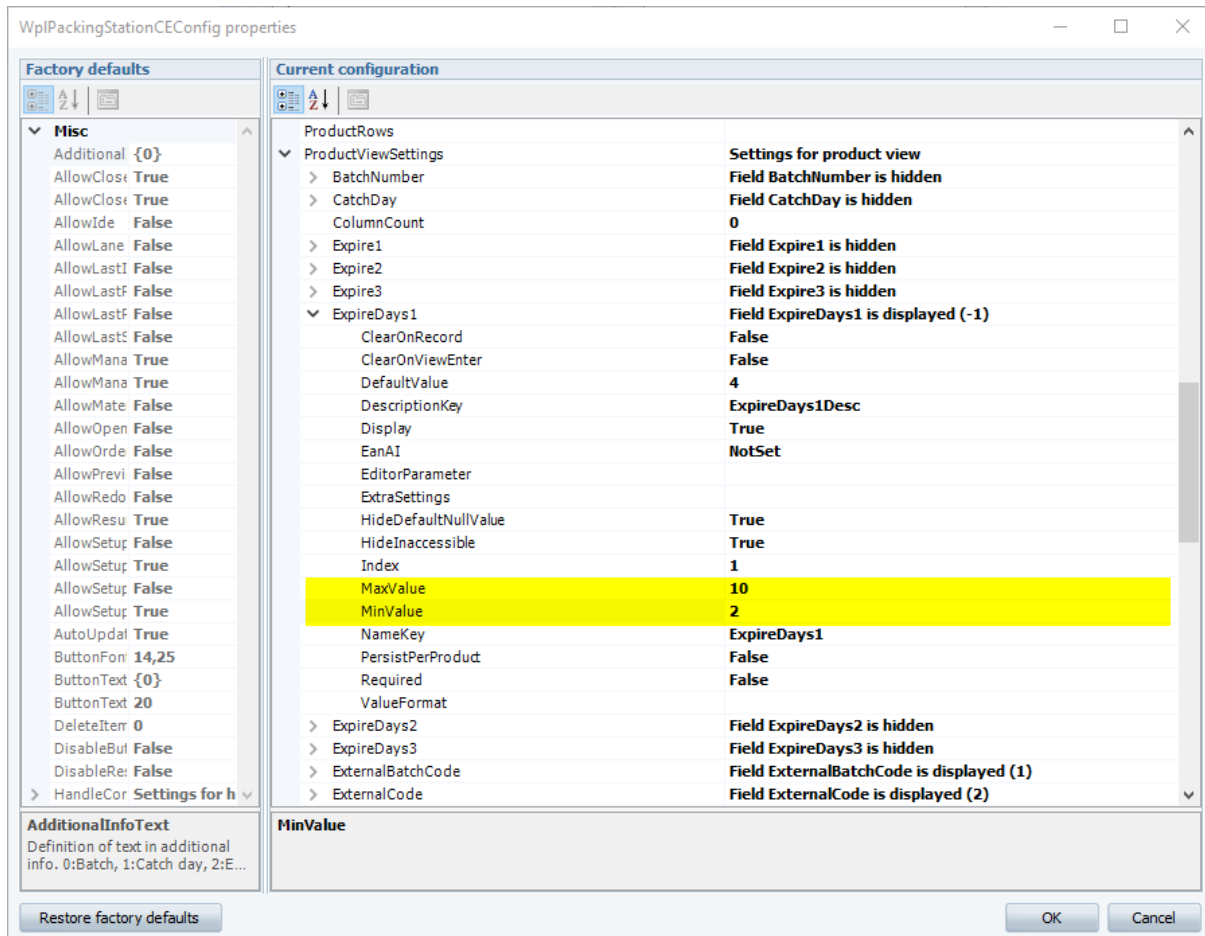
WPL

Added support for prices in a second currency

Support has been added to be able to create labels with prices in two currencies. A configuration switch in the WPL System XML is used to select the operation context field that contains the second currency unit price.

Limit expire days entered by operator

It is now possible to limit the maximum number of expire days the operator can enter.



Non-visible date cannot be used in barcode

A non-visible date field could not be used in the barcode. This is because the field is suppressed in the group comformat. A configuration setting in the WPL System XML called **UseSuppression** can be used to control this. If it is set to false, then there will not be any suppressions in the group comformats.

Suppression is a speed optimization thing only.

Another example of where suppression is useful is the following: All fields used on the slave have to be defined on the master comformat. The suppression is used if there are fields on the slave comformats that are not used on the master comformat. In this case you can save the time by rendering the fields on the master.

Bugs

The following bugs were fixed in this release:

Work item number	Description
68710	Order Process client error
54165	Wrong OEE status when production starts before scheduled time
52294	Fix bugs of OEE data analyser
68259	Complete in progress inspections through WinUI requires refreshing the grid for status to be updated
68272	IDS-721 Bremnes, WPL: Single orderline problem
67742	IDS-671
67461	IDS-665 WPL: Setting new prperiod or changing activity requires two clicks
60979	OEE - LBH plugin configuration
67921	Solutions - RfIdPacking - Add possibility to assign RFID to the pack with M2200PriceLabelController terminal. (IDS-646)
67742	IDS-671
52779	Dashboard crashes when running on PC
53778	IDS-276 - Grading program import rounding issues
54322	Disable automatic export from MHW -> Innova when program is changed on MHW
66461	LBH - Plugin does not startup correct if container tracking is skipped
60918	IDS-670 Not possible to create new Flexicut program from WinUI
54122	PDSNT - Reports befundstatistik and Vorl„ufige befundstatistik problem
60890	Quality Control Inspection changes controller Fix the bug
60820	IDS-673 OCM run the bad pack operation for all packs not only for reject packs
60462	IPP-682

54168	IPP-652
53398	Current status of a signal is not always correct in the database, state changes are not recorded anymore !!
51504	Prevent WinUI crash
54136	OEE - Make advanced end of production detection optional
53661	[IDS-596] QC inspections results report with graph - Graph is not showing correctly after update
52572	Deboning YieldIndex reports can be configured but the configuration is not used at all
54106	OEE - Lotcode not stored in dataregistration in some cases
53981	IDS-526 Delford rendering engine not rendering certain identifiers
53674	[IDS-492] Removing the first group from a control recipe can cause the 'new' first step to be unreachable
53679	LBH - Alarm stays high
53907	IDS-534 Fix exception during logout
53854	IDS-575 Procunitops changes
52995	IDS-450 - Report exporter - Current Production day not working correctly
52317	OEE - installation package bug
52569	IDS-268 Not possible to preview layouts with label type group
53431	Long string should be supported in report designer
53311	IDS-548 - TapGateController extension for M2200 to display list of received messages from Tap
53662	QC inspections results report with graph - Graph is not showing correctly after update
53005	IDS-168 - Product maintenance form is not filtering predefined text correctly
52211	WPL: Coles: OCM Average Weight Band (picking up itcontentspec) Issue
53277	Castronada - Slaughter Control - Killing Line upgrade problems
53328	RF-ID look up not returning correct Pack
53258	FlexiTrim - Heatmap - Left and Right Fillet - System
53179	IDS-506 -Importing custom criteria - lookup values not available
53235	IDS-536 - UnitOpCE throws exception when opening

52997	CL Batches report separates data on lots
53027	IDS-504: Item types / lanes not working on Robo Batcher after upgrade to 5.7.2
52083	Scanning step on PDA barcode not read bug
51348	Handle recipe steps with multiple available process units when creating orders and batches
51914	QC - Inspection viewer performance
51815	Update order line maxamount when control recipe input amount has changed
51818	Recipe editor - There should be a validation error when there is no capability selected for a step.
51919	Change the TVP functionality to use ToLowerInvariant method to support the Turkish il problem. https://my-marel.atlassian.net/wiki/spaces/INDE/pages/72351769/The+Turkish+il+problem ; Moved UnitShort from QC to Common; Added abbreviation translations for units
51994	Process - BarcodeReaderDeviceExecuteUOPlugin - Ignore double scan
5192	Make system check to ensure correct OS environment
51808	Clean up after code review
51949	Process - OrderControl - Throws exception while trying to remove an order/orderline
51671	Database maintenance is not populated when creating a new database with the toolbox WO-00193921
51933	IDS-124: Database maintenance is not populated when creating a new database with the toolbox WO-00193921
51927	Base - WinUI - KeyboardScanner issues with StxEtx scan
51922	IDS-97: On Barcode Error - "Print label skip barcode" not working
51840	WPL: Fix price format in Chile
51824	Base - Apply button in Pivot grid must be pressed twice to see some results. IDS-143
51820	Base - Stop hiding fields in PivotGridCe which should rightfully be visible. IDS-245
51819	OptiPack - UltimateStationCE - Close pallet dialog does not display the pallet packaging itself.
51805	OptiPack - UltimateStationCE does not always display chosen orderline correctly. IDS-225.
44538	Translations - Identify EM and OEE translation items
49089	Recipe - Recipe system - Hardening 4

51617	Base - When the Toolbox tools is used to create a new database, a few tables are not created.
51603	Process - UO - PackToPallet.CloseCollectionOnOrderLineComplete does not work on Production orders
50724	PdaScan - Prevent timeout on latest rpd servers
50164	PDSNT - Fix build warning
49345	OEE - no style cop for Monitoring project. Update others to recent stylecop. Fix warnings
51546	Base - Teach Rs232 to turn on DTR pin - IDS - 208
51540	OptiPack - Manuall selected order not populated in operation data - IDS-202
50733	Smartweigher - Change colors in scope diagram
50570	OEE - Losses Histogram Graph does not scale properly
51417	IPP-641 - Database maintenance error
50102	OEE - Top 10 report error
51197	EM - Alarm parameter not used
51183	OEE - Details report, replacement by alarm only for Failure OEE status
50910	Dynamic line setup - Hardening
50891	Exception when manual production day change is set
51250	WPL: Fix mixed box issue at Clear Springs
51324	IPP-620 - Notification plugin Innova Equipment monitoring keeps crashing
50303	OEE - Earlier production start
51200	OEE THD Plugin data processing bugs
49913	Robot - Robot - Rework - followup from Carlton Brothers - part 2
51248	IDS-94 WO-00160634 Checkweighing applying 0 Kg on label if weighed again
51269	Base - Modbus - Issue connecting to Modbus device
51259	Process - UnitOpCE - UnitOpCE editor Date Operation Parameter field name drop down not working
51219	Lazy load audit trail
50614	OptiPack - Pallet reweigh terminal - Calculate tolerance based on pack content specifications

51207	Base - WinUI - Exiting the Windows application is not done correctly
51085	Orderman - Error in loading updated orders and orderlines
50890	QC - Prevent inspection item datasource to be changed on initialization. Fixed stop reason history report, entity alarms criteria not working. Weight Histogram fixed so that it also has option to change between production day and reg-time.
50274	OEE - Flock number filter for OEE Data Tool
50594	Integration - Add itgr_imports and itgr_exports to database maintenance
50969	Process - SubjectId not always recorded in pallet transactions
50247	OEE - Add profileanalysisitems to dataanalyser.
49878	Rehang/Nuova performance
50605	Nuova - Rehang table schema changed without migration
50873	Invalid window height Innova UserInfo popup window
50904	Invalid window height Innova UserInfo popup window
50901	Deboning - WebSocket - Make screens translatable
50855	Bug - Migration time stamp is not old enough
50679	OptiPack - Packing station license issue
50389	OEE - LBH bug
50707	QC - Exception when automatic save enabled on IPC (WO-00180505)
33202	OEE - Base - Add alarm forwarding to an entity
50855	Bug - Migration time stamp is not old enough
50626	OEE - Better error message and extra check in profile generator. Dashboards - Refresh the property list when a component is added/removed to/from a table layout panel. Fixed broken QC Scanner migration.
50822	RailHandler - Add more detailed trace.
50820	ProcUnitOps - Add station/employee to root objects for Extra fields.
50725	Process - UnitOp Editor - Display script name in tree
50640	Process - procunitops - Add configurable display field
50171	EM - Design for ATC & Chill process values in Marel Core

50367	OEE - Error in timeline report
50630	OptiPack - UltimateStation - Last pack navigation issues (WO-00182815)
50718	Process - UnitOpCEDesigner - Issues with shortcuts
50620	Slaney - InReg Changes
50256	WEB - Reporting - Innova reporting in WebUi in different tabs not possible
50580	Add unit tests for alarm configuration reader
50497	Marine Pack - Fix MSC in SIF export
50478	OEE - Data analyser bug in UI
49344	OEE - Create scheduled tool which automatically checks data from data tool
50392	OEE - Stop reason histogram report bug
50246	General - When plugin is in Error state it doesn't start when pluginhost is restarted
50338	OEE - Profile generation issue
50322	Find and fix (QC - Repeated items - Fix null reference for repeated items)
50004	Forecast planning - Allow same product in multiple cut patterns
50213	so131642 Egill Kristoffersen & Soenner
50179	Criteria text falling off dialog
49507	Checkweighing - Adapt E-Weighing reports to recommendations from Force
50138	Push tare to scale
50134	Process - UnitAggregator trace switches live endlessly
49916	Integration - MDM - Changeset includes data that has not changed
50106	Error exporting histogram report (WO-00171575)
(None)	Changed a migration from internal to public otherwise it won't work.
(None)	Added Numbers.AlmostEqual methods
(None)	Fix OrderProcessClient cleanup on close. Resolves Jira ticket IDS-325.
(None)	Updated the import succesfull message with the number of files and number of leds found
(None)	WPL: Fix bands for TL-9 if more than one channel contains the same product.
(None)	Changed the EndCharacter, also fixed the descriptions for the start and end characters.

	(Merged from 5.7.2 to 5.8.0)
(None)	Remove warnings
(None)	WPL: IDS-311 Add support for same product on more than one channel.
(None)	TMS Simulator - merge 5.6.2->Trunk
(None)	Fixed xlat
(None)	Spacker translations
(None)	Update Moq
(None)	WPL: Fix warning
(None)	WPL: Don't throw exception if product not found.
(None)	IDS-287: Fix bug in CalculateTNE.
(None)	The setter was not correctly set for ValueType. (Merged from 5.7.2 to 5.8.0)
(None)	Merge from 5.7.1- changeset 98641
(None)	Stylecop warning fixed
(None)	Fixed several stylecop warning from the build
(None)	Merge 5.7.0->Trunk Labeling - Fix text cache issue. LabelTexts class was moved from Process to Base in 5.7.0.
(None)	Portioning - Fixed bug causing quick config to fail if no SystemId on Application. https://my-marel.atlassian.net/servicedesk/customer/portal/1/IDS-112
(None)	Added the printer id to the error log to help locate the correct printer. (Merged from 5.7.2 to 5.8.0)
(None)	Small changes and fixes.
(None)	Improve alarm movement
(None)	Rename variable
(None)	Log histogram for first ASP in the line
(None)	Invalidate cached data when updating a script in database
(None)	Updated stylecop in Marel.MP5.PDSNT and fixed warnings. Hopefully fixed build warning also on buildserver.
(None)	Update assembly path
(None)	Removed output piece from station when canceling a piece (Merged from 5.7.1 to 5.8.0)

(None)	PqCheck
(None)	Improve variables names
(None)	Fixed a small bug where adding a Operation or UnitSetup in the OperationParameters would add new node under it. (Merged from 5.7.2 to 5.8.0)
(None)	Remove duplicate resource values
(None)	Fixed offset should start at 0.
(None)	Fixed processing messages
(None)	WPL: Make it possible to override ExternalCode with a value starting with "0", when using the numeric input panel.
(None)	Install: Code cleanup and optimizations removed to prevent virus warning.
(None)	OCM: Fix never ending loop.
(None)	Install: Added Planning and Pas SQL files
(None)	ACM stop loss reason only applicable in distribution line
(None)	Labelling: Fix alignment for static text blocks.
(None)	OEE - Fix null exception
(None)	Fixed bug where the interval time was default set to 0. this caused a exception when starting the plugin.
(None)	Merge 5.7.1->Trunk (5.8.0) Grading - ExtraUnitOps plugin
(None)	Clean up all disconnected message clients.
(None)	WMS
(None)	Install: SpcMan Added
(None)	SPC: Added SpcMan to build
(None)	remove field lotcode = 2570
(None)	Merge 5.7.1 -> Trunk: Label Web Preview - Removed RenderMode=Lightweight from ascx (obsolete Property)
(None)	C: Fix warning in comment.
(None)	WPL: Rollback min max update
(None)	WPL: Added min and max values for numeric controls.
(None)	Jshint was not properly installed on build

(None)	QC: Fix warning
(None)	FP: Refactored Bluetooth connection
(None)	Fieldtypes.
(None)	Changed a wrong description.
(None)	Espera: deleting bad tests.
(None)	Performance improvements
(None)	Fixing output path of test projects
(None)	Downgrade the Moq version used in tests since the latest version has dependencies which are not available on our nuget server.
(None)	Updated test dependencies to hopefully fix broken tests.
(None)	Add two TDM messages
(None)	QC - Item trend dashboard - Fix exception
(None)	Adding unit test projects to main solution
(None)	Install: Added System.* assemblies to the installer.
(None)	WPL: Fix issue with supressing weight2, and with suppressed fields, when there isn't a master comformat.
(None)	Install: Added System.Runtime to installer.
(None)	Updated test application for pluto devices.
(None)	Fixed a bunch of style warnings.
(None)	Railhandler.
(None)	Revert the logo change
(None)	Fix uri too long bug
(None)	Fix exception in program upgrader
(None)	Trunk - More trace in upgrader- Leave fails in version 1.0.0
(None)	New message and fieldtype for PDS-NT OEE Messages
(None)	Updated the collectors for the primary plugin to better check for null values
(None)	Inventory pallet reservation.

(None)	Bug fixes (resolve grade name and client validation)
(None)	For some reason the project file was not included, sorry about that
(None)	Grading - Added parent trace switch to IGradingPlugin so that plugins appear under the grading manager in the trace hierarchy
(None)	Change field and message name
(None)	Install: Added missing OPC UA Assemblies
(None)	OpcGrowingCounter
(None)	Composite activities.
(None)	OPC - Changed how OPC UA SDK finds the config file
(None)	Change trace when an alarm is removed from the list of active alarms
(None)	Fixed cleanup procedure
(None)	QC: Made RawData readable for BLE Temperature probe.
(None)	Additional configuration settings for socket ping
(None)	QC: Improved reconnect after test in Sweden.
(None)	Install: Moved OpcUa config file
(None)	Fix validation and show message
(None)	Counter in yield control, e.g. fish counter.
(None)	Install: Added OPC UA Files.
(None)	Install: Added Marel.Mp5.Trimming.UI.WebSocket
(None)	Added Marel.Mp5.Trimming.UI.WebSocket to ModuleDefinition
(None)	change error.log to a trace.log
(None)	Logiflex qc station.
(None)	add html ci for trimming
(None)	Fixes for driver for M1100 BLE devices. Connections should now hopefully be much more robust.
(None)	QueuePlcQueue
(None)	Fix property
(None)	Changed the creation of the collectortraces and objects. The supplyline has no oeeLineConfig

	therefore the notificationcollector and lifebirdhandling collector was never created. Additionally added a trace for the situation where the alarm was not found in hte active notifications.
(None)	Add trimming ui websocket to trunk main
(None)	Added additional trace to the alarmqueries file
(None)	In the alarmsplugin an exception occurred when reading a dictionary collection. The given key was not present. Therefore changed the direct retrieval from the collection to a more safe tryGetValue implementation.
(None)	Revert use knives changes and fix bugs
(None)	Merge 5.7.1->Trunk Grading - gmatrix - A600 support (listen to RecAtPosition messages)
(None)	MsgListener
(None)	Nuova dashboard time range issue fixed when selecting week or month as range
(None)	WPL: Set bitmap to WPLBLANK, if the bitmap elements inner text is empty or blank.
(None)	Bug fixes and allow requesting weight from scale when clicking the record button. (Merged from 5.7.0 to 5.8.0)
(None)	Limiting the Information records in the Innova Log
(None)	Added the unittests of pdsnt and pdsnt.services to the main solution.
(None)	QC OrderLine Listener CE.
(None)	Fixed an issue where the migration summary is too long resulting in a failing migration.
(None)	Setup: Update System.Net.Http installed for the Web.
(None)	Fix in message handling Nuova data
(None)	Added exception handling in FTP class which handles exceptions in parsing directory listing via FTP. See http://jira.mymarel.com/browse/IPP-613 .
(None)	BT Thermometer device: Remove warning.
(None)	Fr translations for Employees.
(None)	Inventory crash fix.
(None)	Don't convert offset to meters
(None)	OPC - Changed name of OPC UA SDK nuget package to avoid conflicts with official OPC Foundation version.
(None)	Install: Fix directories for QCScanner files.

(None)	Added autodetect flap settings + bug fix
(None)	WPL: Added check for null and empty list.
(None)	KillLine.
(None)	Install: Don't abort if SET_SERVICE_RESTART_OPTIONS fails
(None)	Hide flap properties for v.100
(None)	The AddOnDeleteOnRehangTableIntervalIdColumn Migration fix
(None)	Changed the migration after review
(None)	MaterialTransactionToPOrder
(None)	Fix duplicate resource
(None)	Fix in Alarm system due to recent changes by Arnar
(None)	Fixes to Espera and Bizerba to remove warnings, and fixed namespace of espera tests.
(None)	Install: Remove FeatureCard
(None)	Small fix to make sure that the new UnitOp editor works in the older Guiltem. (Merged from 5.7.1 to 5.8.0)
(None)	Process - OperationContext - BugFix NULL
(None)	Change Alarm reports so some standard criteria are used an no custom criteria
(None)	Small fix set default values for properties. (Merged from 5.7.0 to 5.8.0)
(None)	Small code optimization in OEE poultry plugins
(None)	OCM: Changed alibi calculation when the long sequence number was greather than 7000000.
(None)	Alarms - Fixed bug where alarm image was not imported
(None)	Added migration for ondelete action on rehang datatable
(None)	Changes to process possible signal state unscheduled error in poultry plugin OEE
(None)	Small changes if the tab designer handles the saving of the xml. (Merged from 5.7.1 to 5.8.0)
(None)	Fixed a bug where it was not possible to close the unit op designer if not saving changes. (Merged from 5.7.1 to 5.8.0)
(None)	Implemented fix in OEE poultry for correctling linerunning signal to true when receiving products and signal is false. Whith this we prevent to many sifgnal changes and performanmce issues
(None)	Change Errlog.LogError to ErrLog.LogInfo for a certain message in the OEE alarm link generation

(None)	Logiflex movable station.
(None)	Implemented the suggested IDE info (messages) from the build to improve on the code (In PDSNT service and process projects)
(None)	SPC: Added SpcMan and SPC component o ModuleDefinition.xml