



MATRIX

Food Processing
Software



MATRIX



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Introduction

Thanks to our long-term partnerships and close contacts with food processors worldwide, we are able to keep track of the continuously changing needs and processing trends in the industry.

With the flexible and modular MATRIX Software, MARELEC offers Processing Solutions adapted to fit the individual needs of each customer. Starting from the processing of production data for reporting from a stand-alone MARELEC device, to overall process monitoring and controlling the complete food processing plant.

Food processors rely on data analysis to find where to make improvements in their processes. Therefore, real-time monitoring and controlling of the Key Performance Indicators (KPI's) as yield, throughput, give-away, quality and uptime are crucial for the competitiveness and profitability of their company.

MATRIX offers solutions for:

- Real-time monitoring
- Remote control
- Reporting
- Maximize Yield
- Maximize Capacity
- Minimize Give-away
- Advanced Order Management
- Labelling
- Traceability

MATRIX digitally transforms your entire process and takes it to the highest level for optimizing.



MATRIX PRO

1 // RECEIVING

Raw materials arrive at the plant. A bar code is attached and read before processing. This is the starting point for MATRIX to fully trace the goods.

2 // FLOWSCALE

One flow-scale weighs the flow of products before trimming and another flow-scale measures the flow after trimming. MATRIX monitors the yield by comparing the weights on both scales. By monitoring the yield, the Overall Equipment Efficiency can be determined, and machine settings can be fine-tuned to optimize production.

3 // TRIMMING

Raw product is weighed before being assigned to an operator who will trim the product. By monitoring the weight of the trimmed end-product and the side-product, it is possible to individually evaluate operators for yield and throughput.

4 // PORTIONING

Value is added by portioning products to fixed weights or to produce multiple portions with individual higher values. MATRIX keeps track of all portions produced and generates production reports showing yield and throughput.

8 // ORDER PICKING & DISPATCH

Palletizing in a blink of an eye. MATRIX routes the packed product to the packing station for box packing and/or palletizing. With an HMI, the order progression and assigned packing stations can be monitored and adjusted.

7 // LABELING

The MATRIX Label Manager is the ultimate tool for private labelling. It ranges from a single printer to complete inline print & apply solutions, ensuring transparent traceability.

6 // PACKING

MATRIX interfaces with 3rd party solutions to route batches or trays to the packing machines. MATRIX communicates in between devices so it stays fully in control and guarantees complete traceability throughout the process and manages the entire flow of the order.

5 // GRADING

The intelligent software in MARELEC graders ensures that batches are created at target weight with a minimum of give-away. This improves your profitability. MATRIX produces production reports with detailed information on all batches produced.





Features



PROCESS CONTROL

Real-time data processing and remote control of your equipment on a centralized point. MATRIX allows you to monitor your process and making on-the-fly adjustments at the quickest response time.



ORDER PROCESSING AND PLANNING

By using MATRIX Advanced Order Processing in combination with the Planning tool, MATRIX can be left unsupervised without worrying about order quantities, so additional valuable time is generated to focus on other worthfully aspects of production management.

MATRIX intelligently navigates your products through the process flow. Minimize handling, ensure longer shelf-live and prioritize orders to ensure spot on delivery times.



LABELLING AND TRACEABILITY

Traceability is a must in the food processing and packaging industry. Integrating 1D/2D code readers in MATRIX ensure the traceability as from the incoming raw material to the finished product delivered to your customer.



WEIGHING

Using the MATRIX Weighing Terminal makes it easy to switch from product and packaging definitions for manual box weighing registrations. A colour check indication visualises the current batch weight versus target weight to minimize the give-away. Follow up order progression of each order item and print the customers private label.



QUALITY MANAGEMENT

The MATRIX Quality Terminal registers internal inspection reports. MATRIX helps to save paper and improves quality by following up digitally over time.



FLEXIBILITY

Marelec invests continuously in the development and expansion of MATRIX modules to create the best possible work environment for the customer, while maintaining harmony in a busy workspace. By the integration of MARELEC devices and interface with 3rd party equipment, like 1D/2D code readers and printers, the modular design of MATRIX offers a flexible processing solution. Orders from the customers ERP can be loaded in to MATRIX, while production data and Order information is shared with ERP for finalizing the shipment documents and invoicing.



KEY PERFORMANCE INDICATORS

Monitor per device, lane, operator to improve global performance of your production process. Use MATRIX Dashboard for making decisions based on real-time data analysis on throughput, yield and give-away. Have a look at the KPI view to analyse day by day or use the reporting module for long-term analysis.



OVERALL EQUIPMENT EFFECTIVENESS MONITORING

Monitor the availability and performance of your equipment to improve your productivity. Use the event log as an indicator for preventive maintenance planning to ensure the up-time.



Scan to watch
our MATRIX video

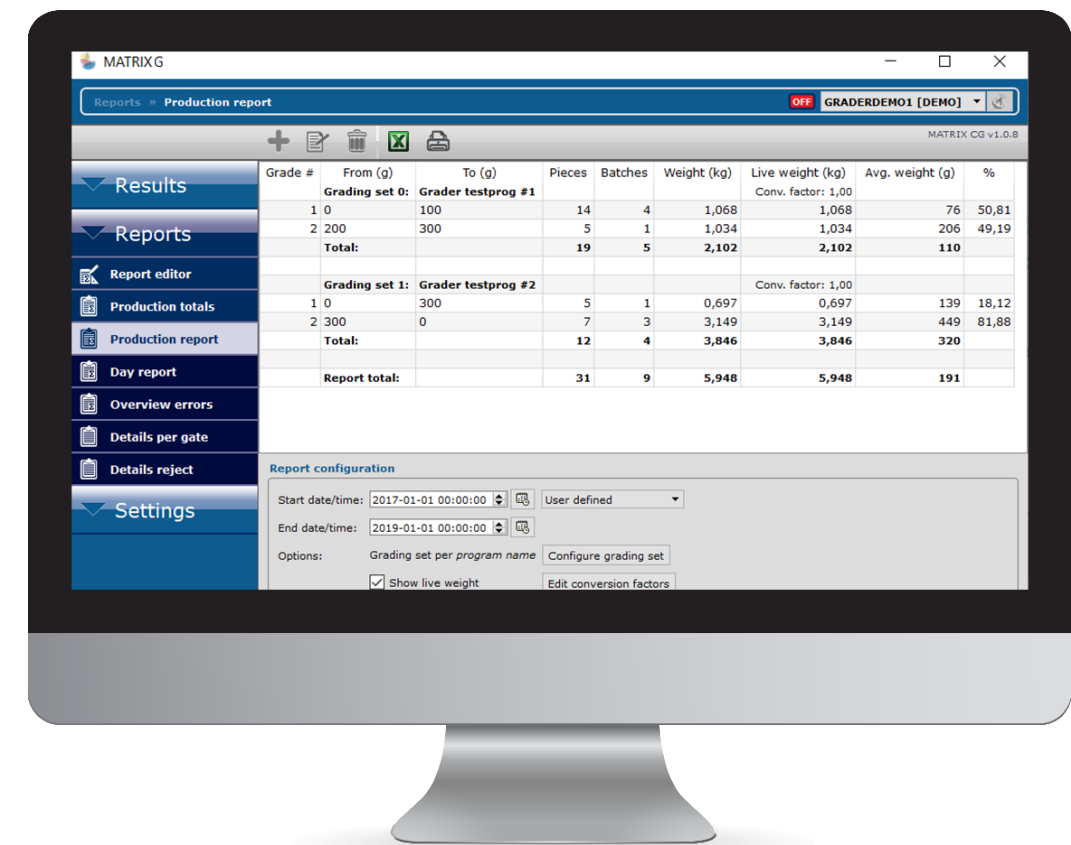
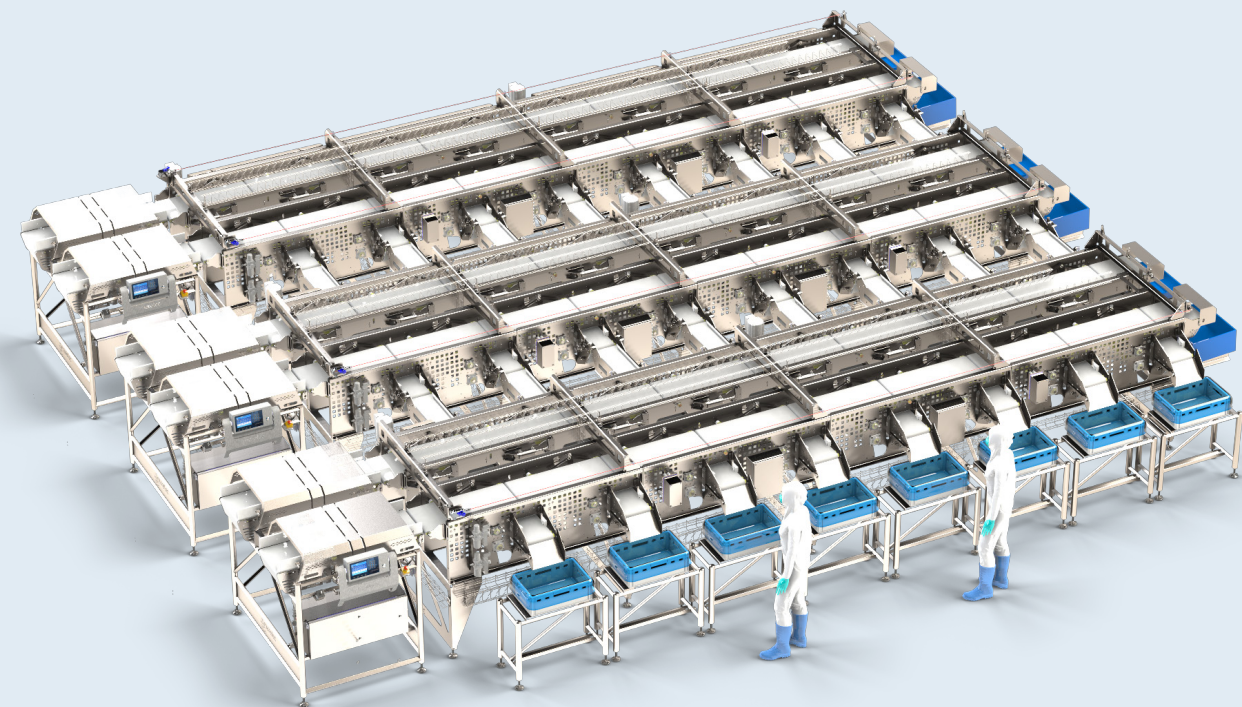
MATRIX G

MATRIX G will register all data generated by the graders when sorting or batching products (weight of the product, delivered station, weight of each batch, ...). It is of the utmost importance for processors to monitor these KPI's. E.g. give-away can be monitored so adjustments can be made on the fly leading to cost improvement.

The software consists of two main parts:

- MATRIX G backoffice: This part of the software will make sure all data generated by the grader is stored on the server in a database.
- MATRIX G client version: This allows the production manager to monitor each recorded weight from his office PC. The throughput of the grader can be represented visually. The client version enables the creation of tailor-made reports. This part also allows the grader to be controlled remotely.

With the MATRIX G, it is also possible to design customized labels and control an optional label printer.



// DATA ACCESSIBLE THROUGH A STANDARD DATABASE

All the collected data is saved in a SQL-database which is a commonly used database across the world. This offers easy access to the data for possible integration with third-party software.

// CLIENT VERSION

The client version allows the gathered data to be used to generate tailor-made reports.

// REMOTE CONTROL

With the MATRIX G, it is possible to connect to the grader with a computer. The module allows you to take over the screen of the grader. This also allows you to provide the best remote support from MARELEC

// OPTIONAL LABEL PRINTING

With the MATRIX G, it is possible to design customized labels, and control a label printer to print labels that are attached to the batches. The labels will have a station number, so the operator knows which batch the label should be attached to.

// EVENT LOG

All steps during production are logged, for instance, when the machine starts/stops, running time, downtime, ...

MATRIX P

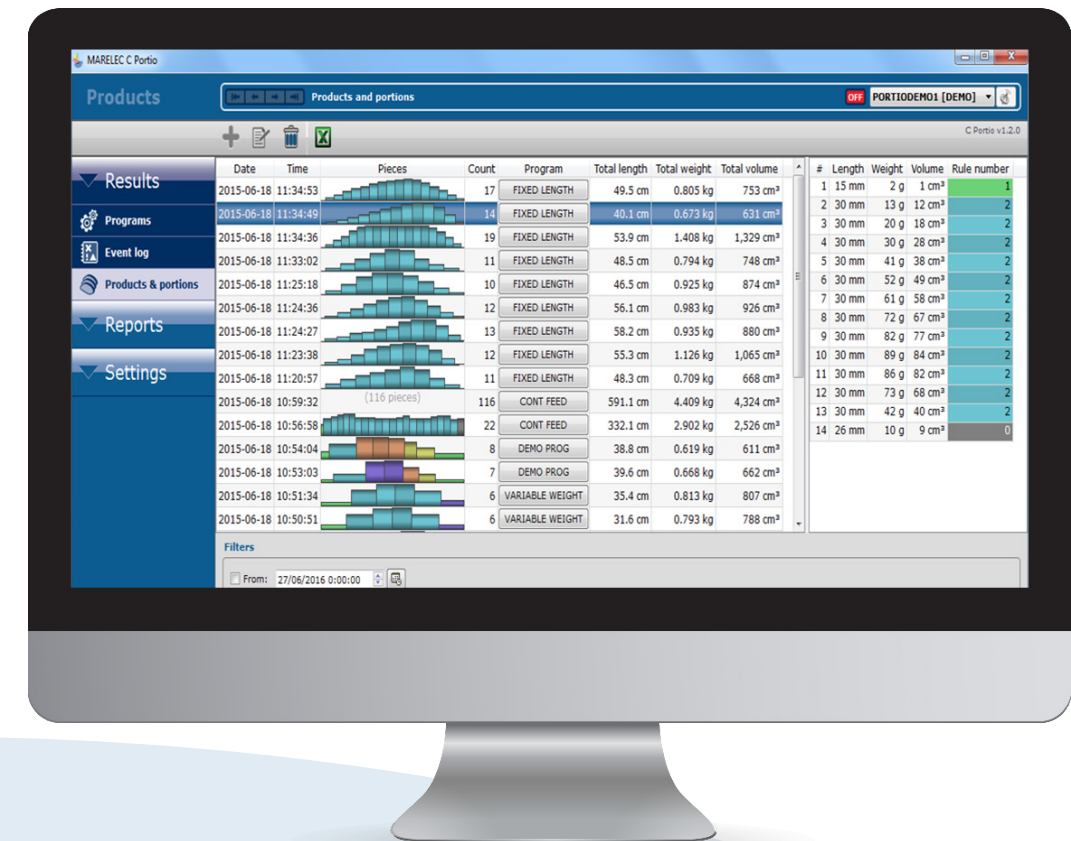
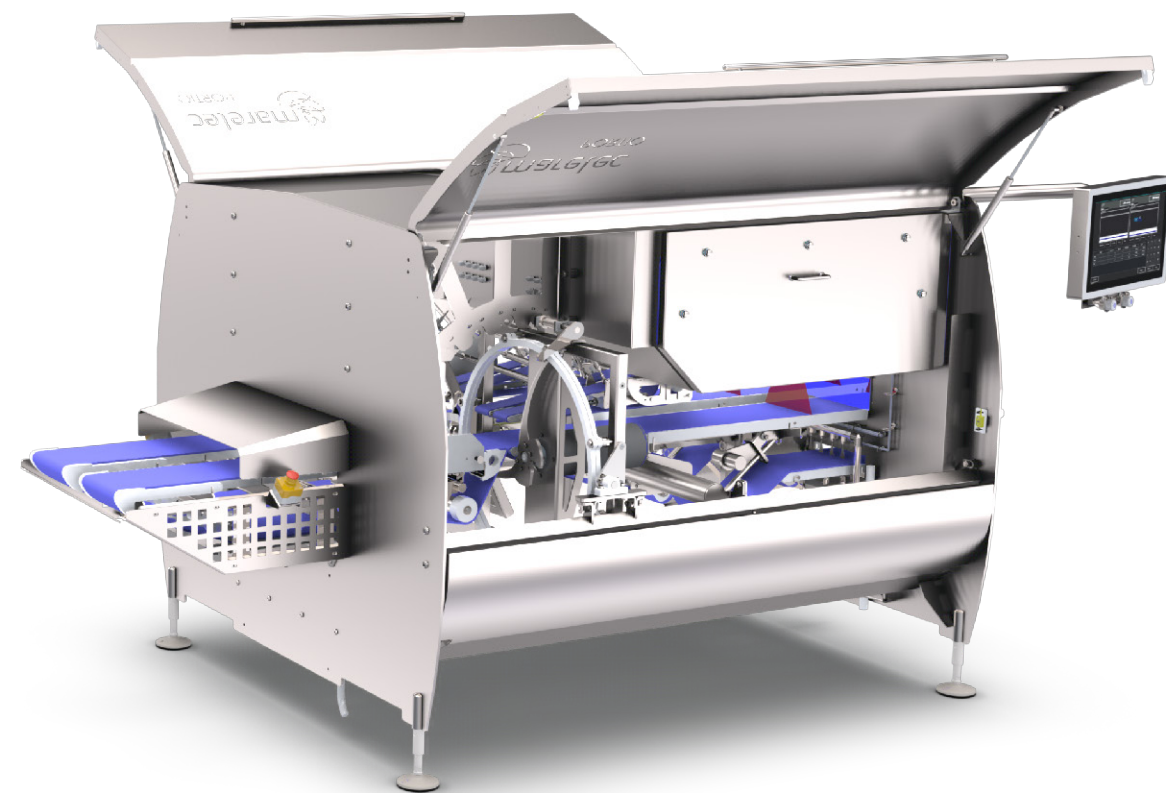
MATRIX P will register all data generated by the PORTIO while cutting (weight of the primal, weight of each cut, thickness of the cut, ...).

The software consists of two main parts:

- MATRIX P backoffice: This part of the software will make sure all generated data is stored on the server in a database.
- MATRIX P client version: This allows the production manager to monitor each recorded weight from his office PC. The products and portions are represented visually. The client version enables the creation of tailor-made reports. This part also allows the PORTIO to be controlled remotely.

The MATRIX P can also backtrack changes that were made in the cutting programs. The reporting module offers the possibility to create customized reports to see if the changes took effect.

The software is an enormously powerful tool for monitoring numbers and KPI's of your cutting-operation.



// DATA ACCESSIBLE THROUGH A STANDARD DATABASE

All the collected data is saved in a SQL-database which is a commonly used database across the world. This offers easy access to the data for possible integration with third-party software.

// CLIENT VERSION

The client version allows the gathered data to be used to generate tailor-made reports. The client version can also generate a visual representation of the cut products.

// REMOTE CONTROL

The MATRIX P makes it possible to connect to the portion cutter with the computer. The module allows you to take over the screen of the portion cutter. This also allows you to provide the best remote support from MARELEC.

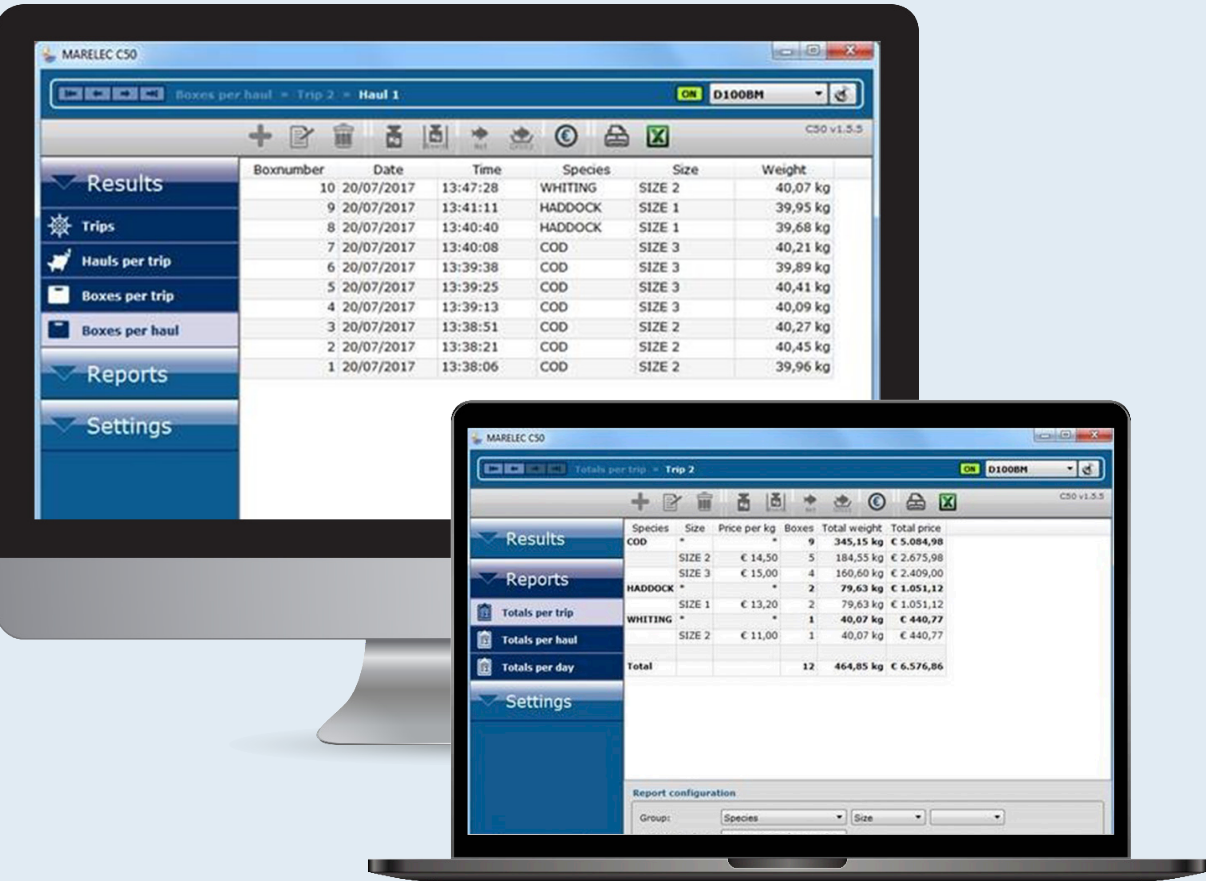
// EVENT LOG

All steps during production are logged, for instance, when the machine starts/stops, running time and any downtime.

Marine

// MATRIX C50

The MATRIX C50 is used to monitor catch results from fishing. Its data comes from Marelec D100 scales, which are used to weigh boxes of fish. MATRIX C50 can also create reports, such as the totals per species and size on a certain trip or day. These reports can be connected to spreadsheet and 'electronic log book' software.



// MATRIX C100

The MATRIX C100 software is primarily used to monitor catch results from factory trawlers. Its data comes from MARELEC pack weighers. Each weighed pack on the pack weigher is assigned a packing code, which has a certain customizable format. A list of valid packing codes to be used during a trip can be created using the MATRIX C100 software. The active packing code can then be selected in the software or directly on the pack weigher. If any packing codes were forgotten, they can also be created manually on the pack weigher.

Additionally MATRIX C100 software can be used in combination with MARELEC check weighers to perform thaw pack checks. In this check, a pack is weighed thawed, and then each individual fish from the pack is weighed. The data from performed check can be viewed in MATRIX C100. The software can also create reports, such as the total pack count and weight per packing code, for a specified trip or day. These reports can be displayed, printed or exported to spreadsheet-software.





MARELEC Food Technologies

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