

FRONTMATEC

CUTTING AND DEBONING OF PORK, BEEF AND LAMB





WHEN INVESTING IN A FRONTMATEC SOLUTION, YOU DON'T JUST BUY FEATURES

You also buy benefits such as high production performance, low downtime and peace of mind.

At Frontmatec we are renowned for our high-quality systems for the entire value chain of the meat industry – from carcass grading, slaughter lines, cutting and deboning lines, hygiene systems and control systems, to logistics and packaging.

We are the highly experienced partner that customers count on for every step of the journey

– from the initial design phase to the after sales service.

We are capable of handling complete green field projects, from initial concepts, design, manufacturing and pre-assembly to completion and installation.

PRIMAL CUTTING LINES FOR PORK

Frontmatec offers a wide range of solutions for manual and semi-automatic cutting of pork incl. sows.
All cuts performed by circular knives result in clean cuts.

No bone fragments from cutting and achieving optimum yield without product loss. Laser marking lines optimise and secure correct cutting of primals.

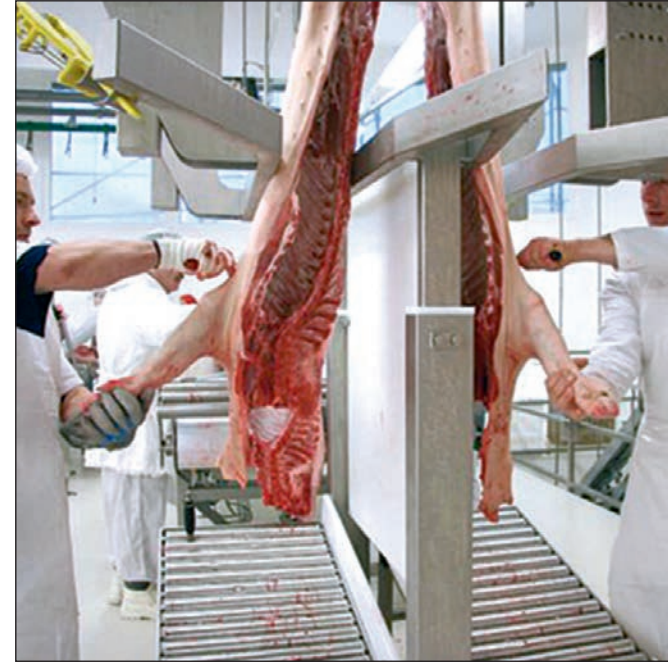


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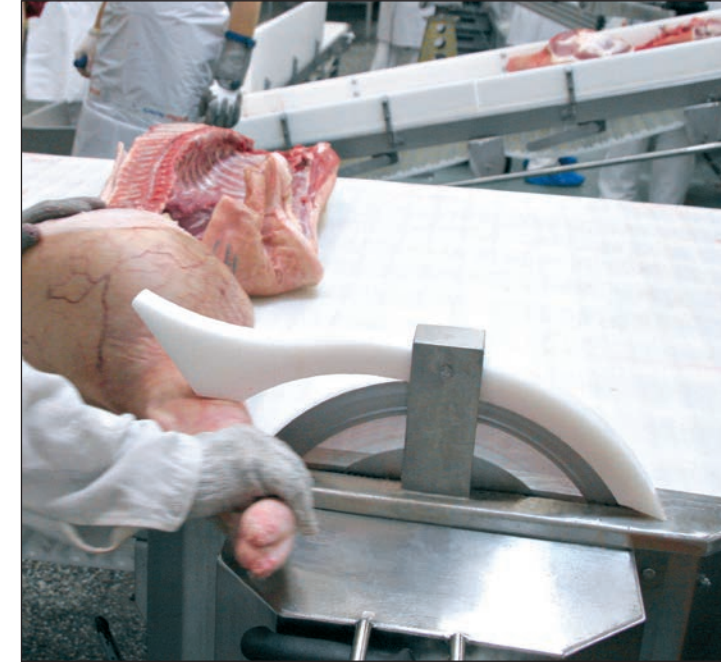


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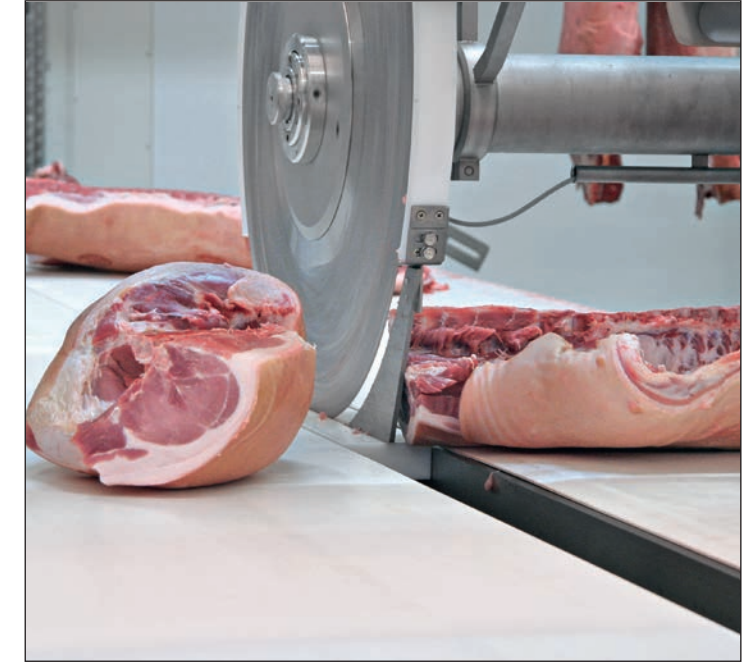


Photo 5



Photo 2



Photo 3



Photo 6



Photo 7

FULLY AUTOMATED CUTTING OF PORK

With focus on automation, labour and energy costs, as well as hygienic design, control systems and traceability. Frontmatec offer equipment with increased up-time and improved yield. Our fully automatic cutting line for pork is based on servo-electric and mechanical principle. The line automatically cuts the carcass into four parts: hind feet, leg, middle and shoulder. The automatic measuring system measures each carcass, thus ensuring optimum registration, maximum yield and labour savings.

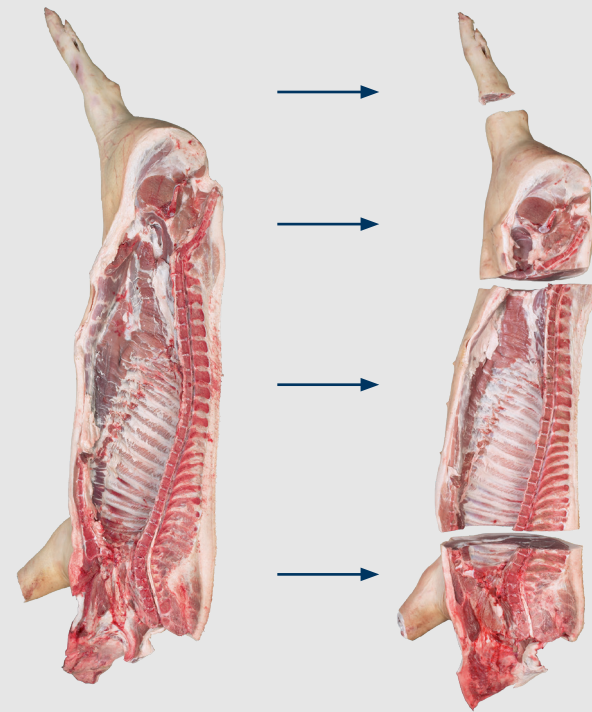


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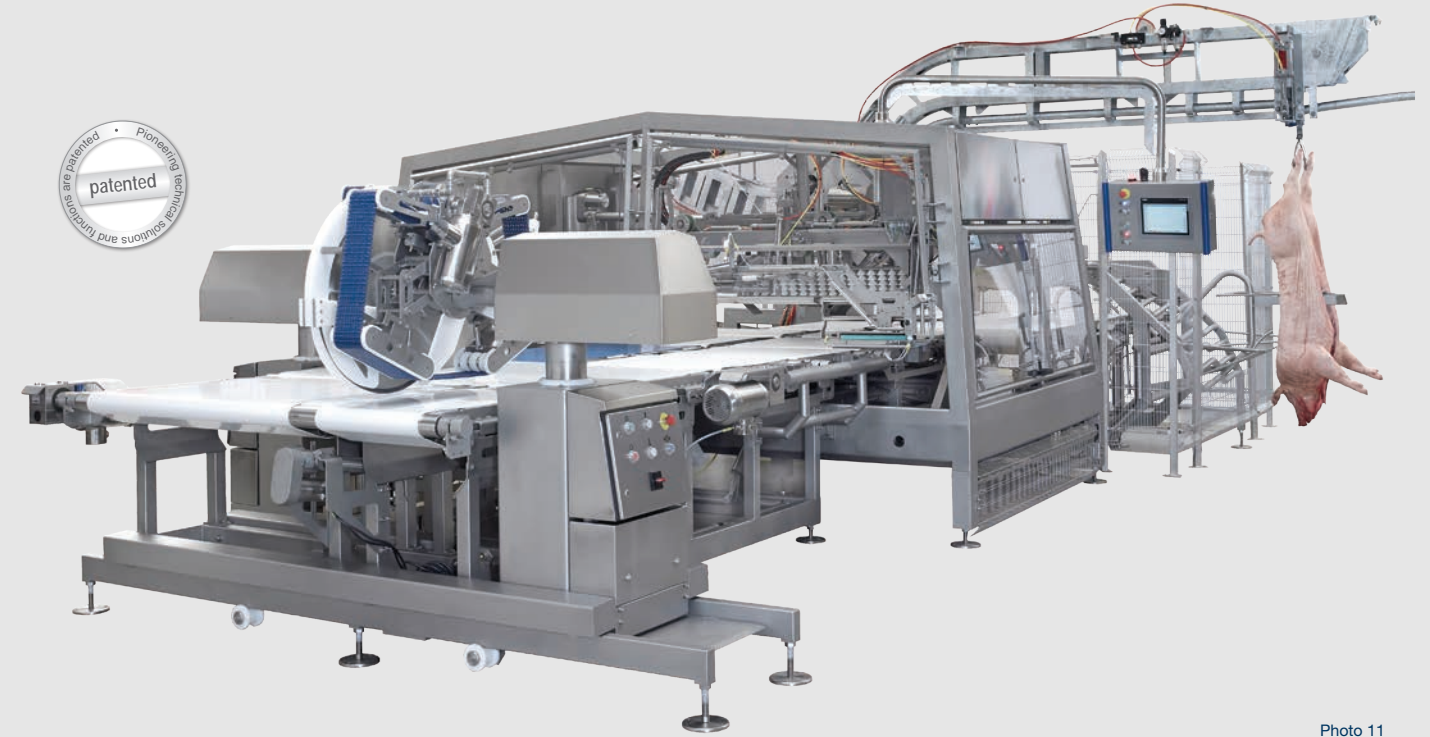


Photo 11



Photo 9



Photo 10

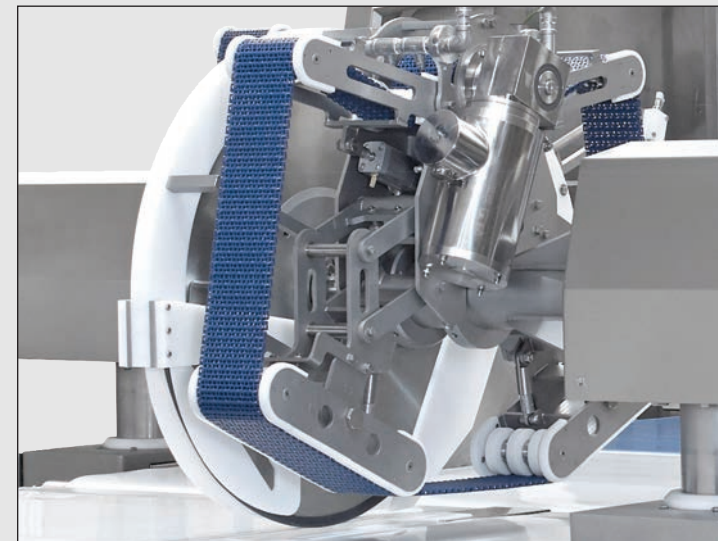


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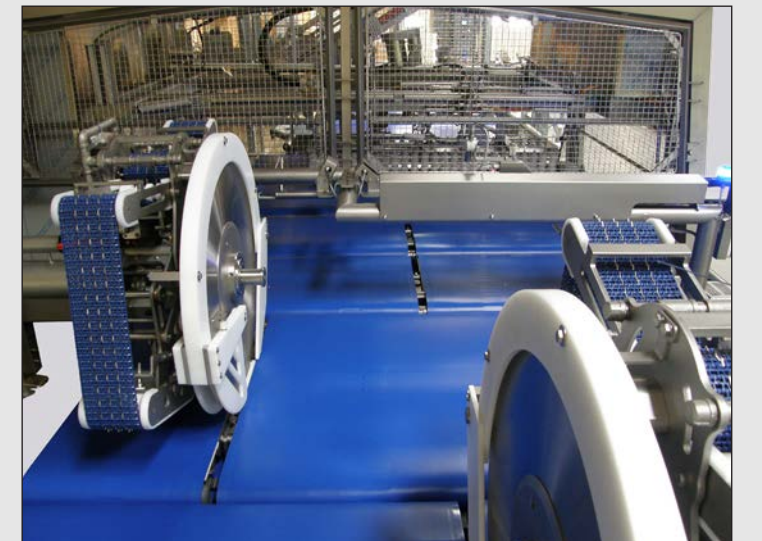


Photo 13

FULLY AUTOMATED CUTTING LINE FOR PORK MIDDLES

A fully automated cutting line for pork middles based on optical, servo-electric principles. Receiving the middles from a primal cutting line or a conveyor system with the neck end first, the middle is received into a gripping chain. After individual measuring of each middle, the loin and belly are separated with a circular knife. An undercutting knife can be added to separate meat from ribs.

The ribs are divided with the circular knife to split loin and belly. Deboning of the loin is done by up to four fixed knives. Loin ribs and feather bones are cut off the rib top. The subsequent rib top knife is used according to needs to cut off the rib top or to cut off the string of pearls. All cuts, bones and meat are automatically transported out of the machine. Each customer can set up a specific recipe for the cuts needed on their production line.



Photo 14



Photo 15



Photo 16



Photo 17



Photo 18



Photo 19

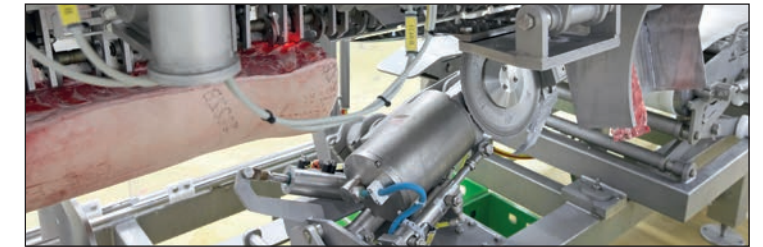


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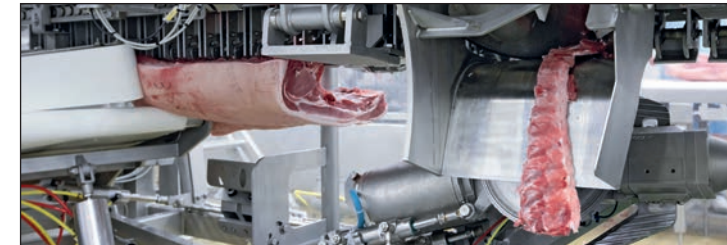


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Photo 22

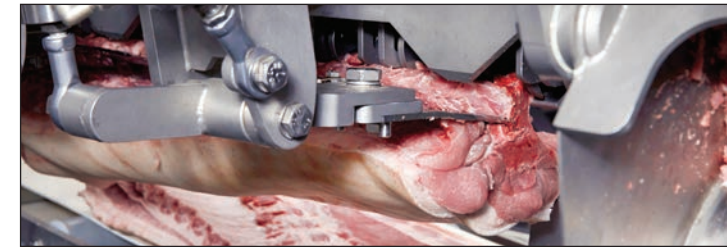


Photo 23



Photo 24



Photo 25



Photo 26

CHINE BONE REMOVER

The automatic chine bone remover is designed for the full automatic removal of the chine bone/pearl string from pork middles/loins. It provides optimal uniform products, extra yield and large savings on labor.



Photo 27



Photo 28



Photo 29



Photo 30



Photo 31

LOIN SCORER

Photo 32

Automatic loin scorer for deboned and non-deboned pork loins. The machine scores the product with adjustable depths and widths. The rotating knife principle gives the product uniquely uniform and correct scoring.



Photo 33

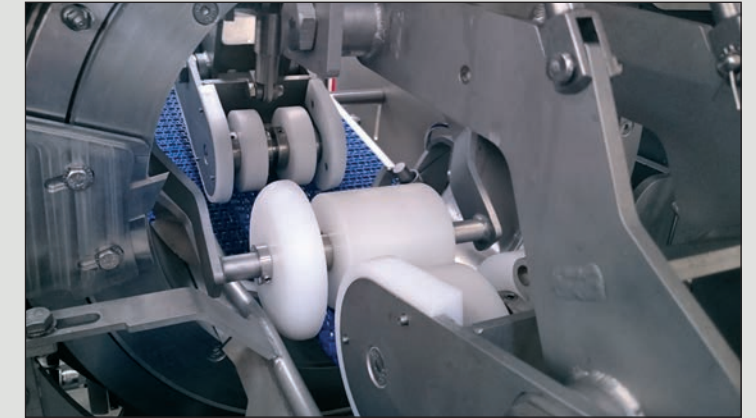


Photo 34



Photo 35

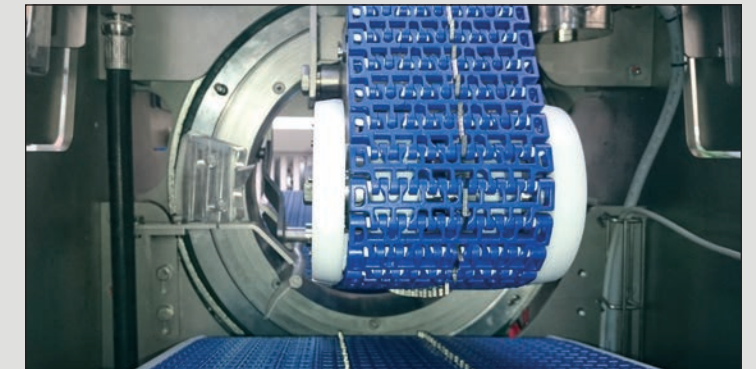


Photo 36

AUTOMATED MIDDLE SPLITTER

The automatic middle splitter is designed for the automatic cutting of loin/belly from pork middles. The cutting angle is adjustable on the display terminal. Providing optimal uniform products, extra yield and large savings on labor.

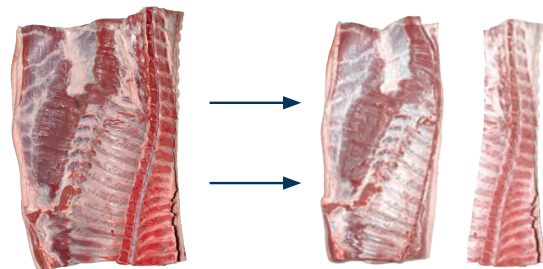


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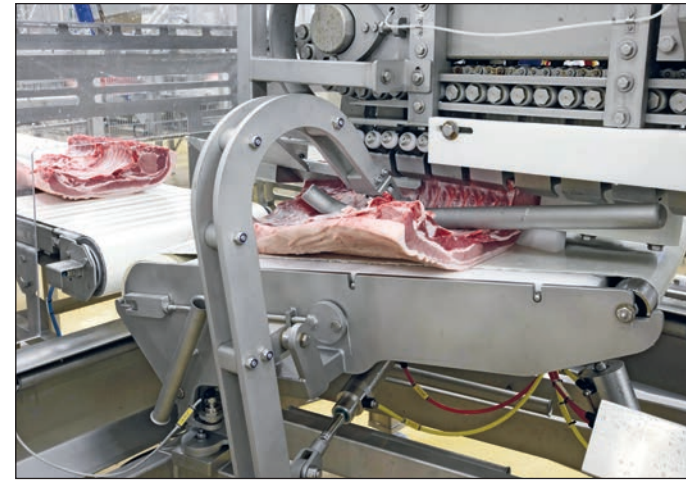


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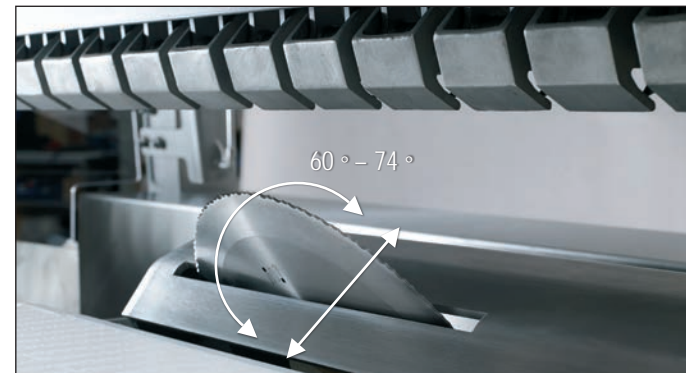


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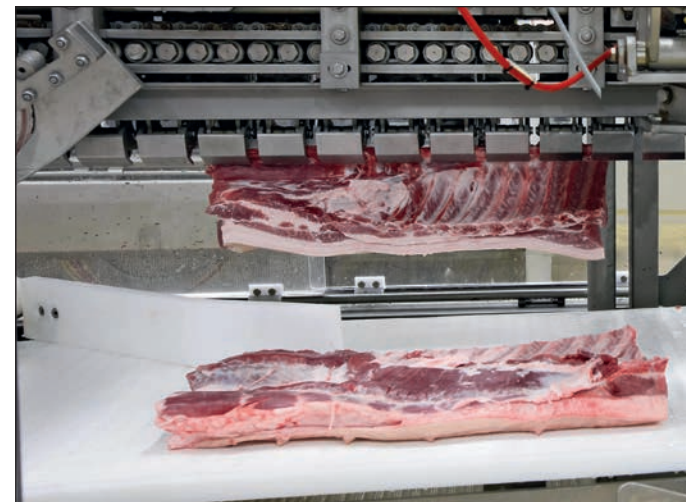


Photo 41



Photo 40



Photo 42



Photo 43



Photo 46

BELLY CLASSIFICATION

The belly classification unit is designed to sort pork bellies, bone in or boneless, by specific measurement criteria. The unit can easily be integrated within a cutting system or a belly trimming line.

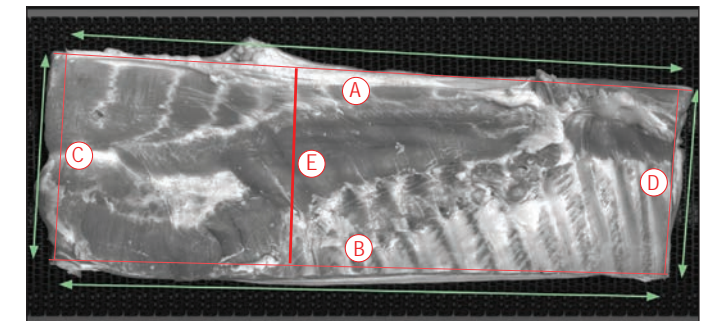


Photo 44



Photo 45



Photo 47

AUTOMATED LOIN TRIMMER

The Frontmatec loin trimmer offering trimming of different pork loin or back products, using the same machine, but equipped with different cutting knives and pressure wheels. The loin or back is fully automatically trimmed, based on an optical probe principle. The loin trimmer divides the loin or back into backfat, rind and the finished product. The trimming line provides both better yield and labour savings.



Photo 48



Photo 50

Photo 51

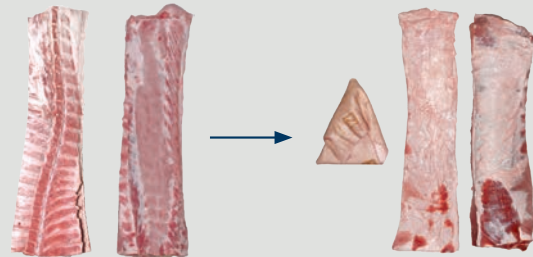


Photo 49



Photo 53



Photo 52



Photo 54

SINGLE RIB PULLER

In cooperation with the DMRI, Frontmatec has developed an automatic, robotic solution for the pulling of pork single ribs. By using X-ray for detection of the ribs on each individual belly, and sending the information to the PLC, the robot can individually remove up to 12 ribs per belly. This complete unit can be integrated in existing deboning lines. The automatic line is modular build and can be customized according to specific requirements.



Photo 55

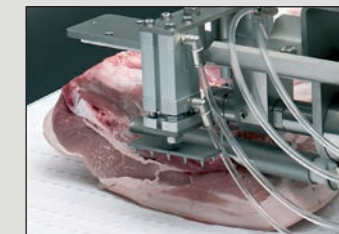


Photo 56



Photo 57

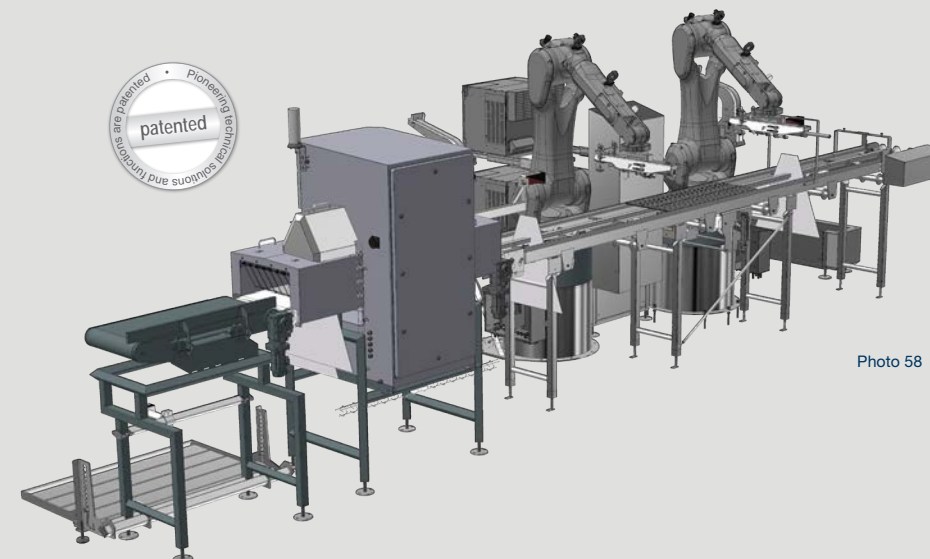


Photo 58

CHINE BONE SAW

The robotic chine bone saw combines vision and robotic technologies for a high precision sawing of the chine bone at high capacities. The robot handles both left and right middles and the HMI allows for easy set-up of different machine parameters including specific recipes.



Photo 59

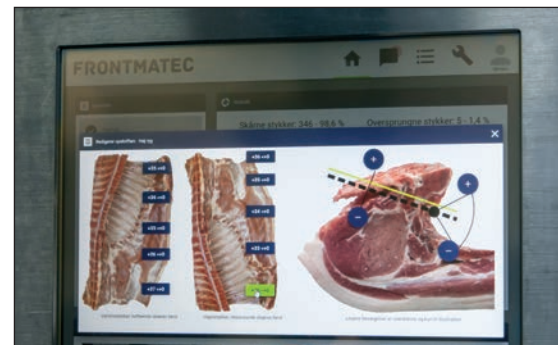


Photo 60



Photo 61



Photo 62

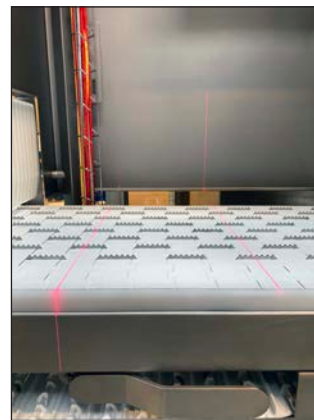


Photo 63



Photo 64



Photo 65

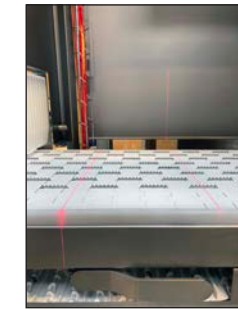


Photo 66



Photo 67



Photo 68

LOIN / BELLY SAW

The automatic band saw for splitting loin and belly can be fitted into an automatic line. The system uses cameras to "read" each belly individually, for a perfect cut. Different recipes can be added in the control. It is possible to choose where to place the cut, and to choose the shape of the finished product, by adjustable angle of the saw blade.



Photo 69

HANGING DEBONING OF PORK LEGS OR SHOULDERS

Frontmatec offers a completely new method for deboning of pork legs and shoulders. With a modular built hanging deboning line, it is possible to have a line, that will increase yield as well as the quality of your products and reduce labour. Utilizing gravity with the hanging of the products we create an optimal and easy ergonomic deboning process. The modular built line is flexible with 1 to 3 working stations per process being added according to customer requirements.



Photo 70



Photo 74



Photo 75



Photo 76



Photo 71



Photo 72



Photo 73



Photo 77

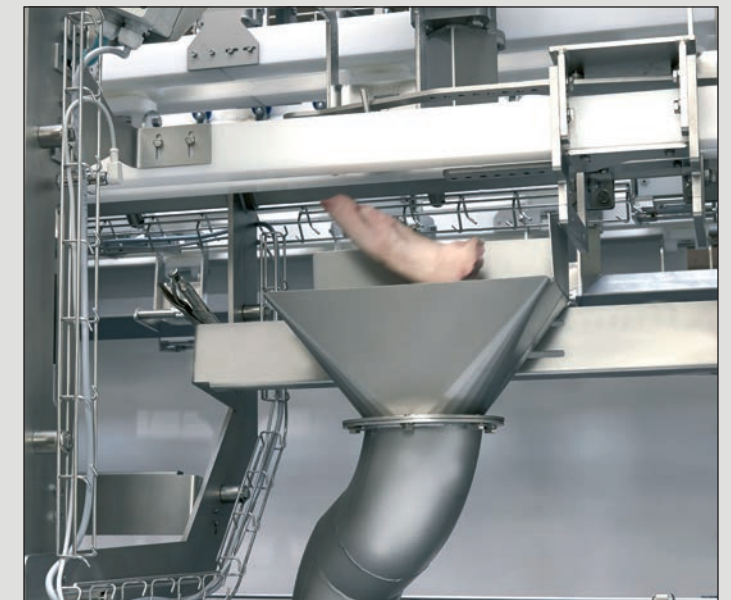


Photo 78

DEBONING AND TRIMMING LINES FOR PRIMAL CUTS FROM PORK

The deboning lines are individually designed for deboning and trimming the various primal cuts from pig and sow carcasses. Labour requirements and integration of machines are adjusted to match the operating principle of the line. Work stations are designed for correct ergonomic performance.



Photo 79



Photo 85



Photo 80



Photo 86



Photo 87

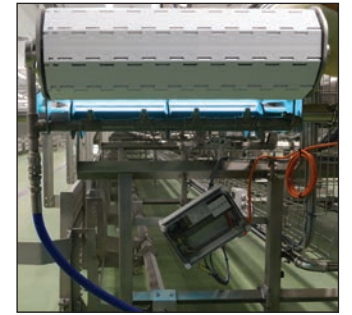


Photo 88



Photo 81



Photo 82



Photo 89



Photo 90



Photo 83



Photo 84



Photo 91



Photo 92

TRIM SORTING LINE

The Frontmatec trim sorting line is specially designed to meet the high requirements for a complete controlled management of trimmings from pork, beef and lamb, in an automatic workflow with fat analyses and detection for foreign objects.



Photo 93



Photo 94

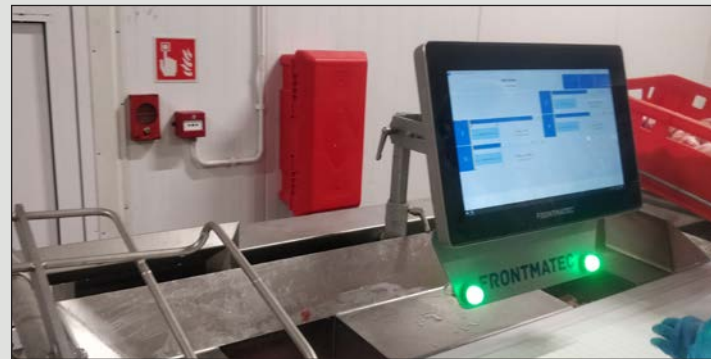


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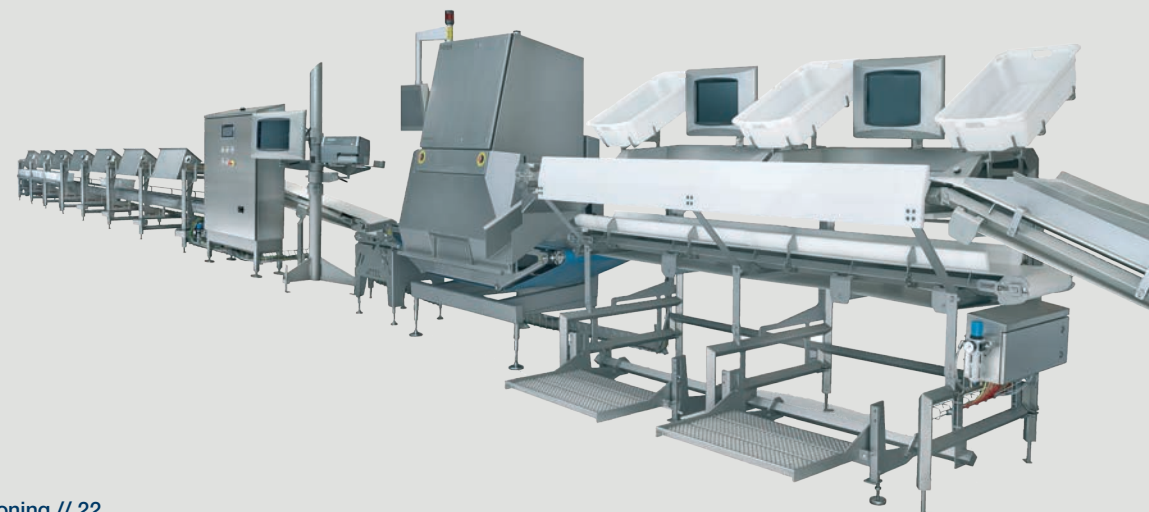
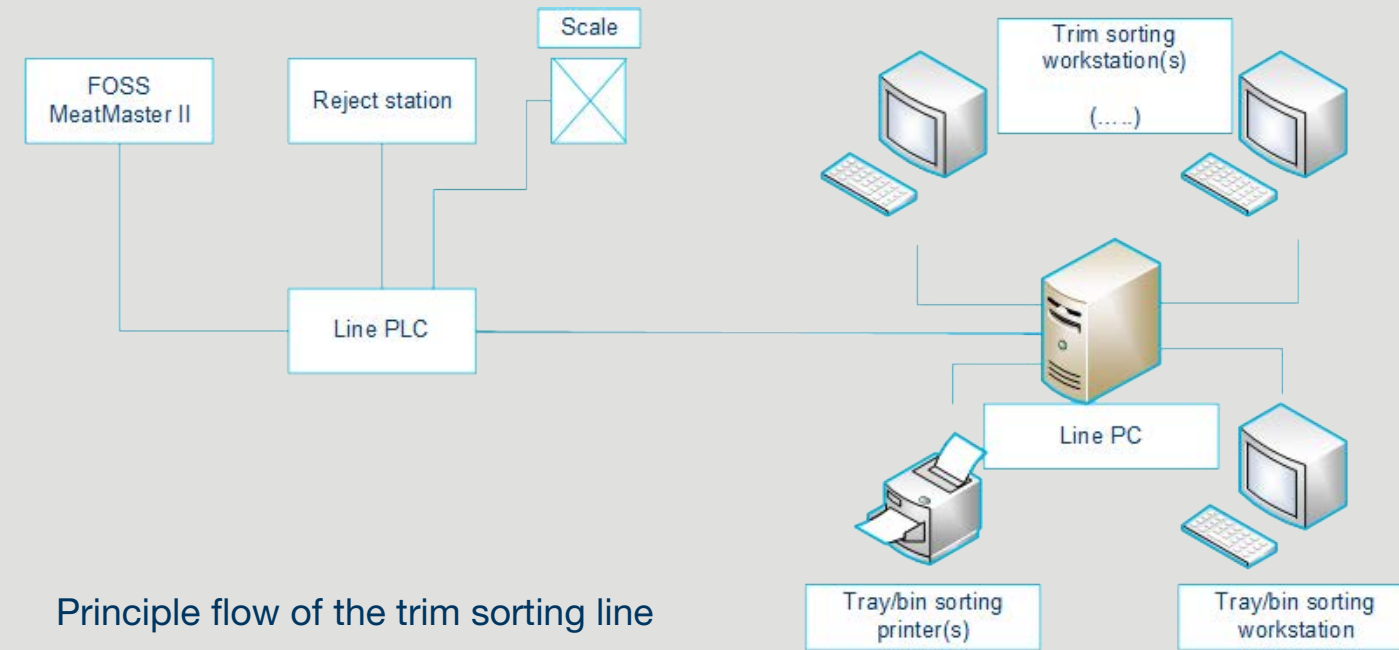


Photo 96



Principle flow of the trim sorting line

Photo 97



Photo 98



Photo 99

IT IS ALL ABOUT DATA

Control of the process is vital throughout the meat industry to reduce loss and achieve full control over raw material. GO collects valuable data into one system, which can be effectively used to make decisions regarding the raw material in production planning, chill room allocations, deboning lines, finished goods warehousing or high runner sales demands.

On reception into the system, supplies are checked for quality and identified according to certain criteria, on which decisions are based at later stages of processing. Information such as animal ID, fat thickness, age, breed, pH value and so on comes from various systems such as AutoFom III™, Fat-O-Meter™ and ear tag. Typical data collection points on the slaughter line are:

- Reception of animals: PO handling and registration
- Validation (shoot box): Validation of animal registration
- Tag-link sequencing: Linking animal to a unique hook id
- Hide registration: Registration and printing of label to hide
- Inspection: Veterinarian sickness and final quality checks
- Rework: Work carried out based on veterinarian checks
- Classification: Assign classification codes/sort groups
- Settlement: Register weight based on defined rules

BENEFITS

- Full animal traceability
- Reports on input by yield group, grade and breed
- Simple data collection to ensure fast reception of animals
- Monitors supplies for product quality and supply accuracy

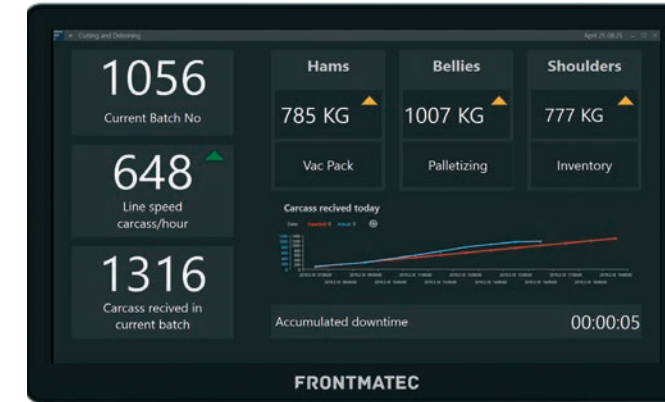


Photo 101

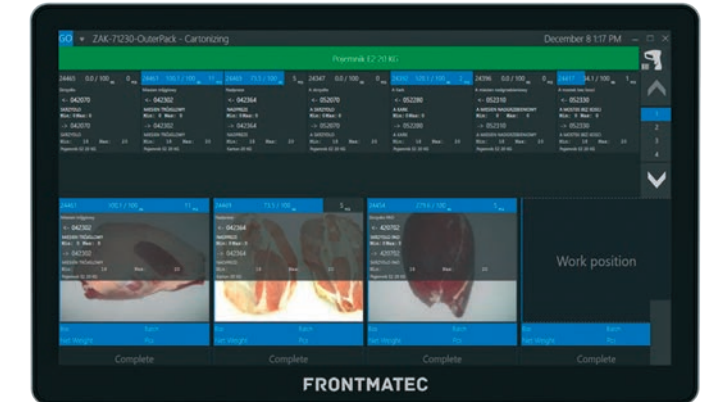


Photo 102



Photo 100



Photo 103



Photo 104

BEEF PRECUTTING, SPLITTING AND DEBONING

Hanging precutting and primal cutting of beef quarters, for subsequent integration into deboning systems. Vertical precutting and deboning systems for beef quarters. An ergonomic working height as well as holding devices and pulling systems for deboning, secure optimum working conditions and yield.



Photo 105



Photo 106



Photo 107



Photo 110



Photo 112



Photo 114



Photo 111



Photo 113



Photo 115



Photo 108



Photo 109

DEBONING AND TRIMMING SYSTEMS FOR BEEF

Deboning and trimming systems for beef carcasses arranged as a production line or group workstations with typically 3 to 9 persons per group. The systems are available with traceability to the individual animal or batch, as required. Yield control is integrated by means of entry and exit weighing of main and by-products.



Photo 116



Photo 121



Photo 117



Photo 118



Photo 119



Photo 120



Photo 123



Photo 122



Photo 124

LAMB HORIZONTAL AND VERTICAL PRIMAL CUTTING

Frontmatec offers manual, semi-automatic and fully-automatic primal cutting machines for lamb. All cuts are performed by circular knives, resulting in clean cuts, no bone dust from cutting and optimum yield without product loss. Laser marking lines/cutting lines optimise and secure correct cutting of primal cuts.



Photo 125



Photo 131



Photo 132



Photo 128

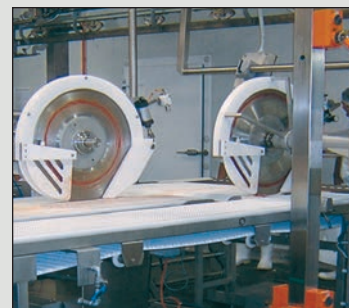


Photo 126



Photo 127



Photo 129



Photo 130



Photo 133

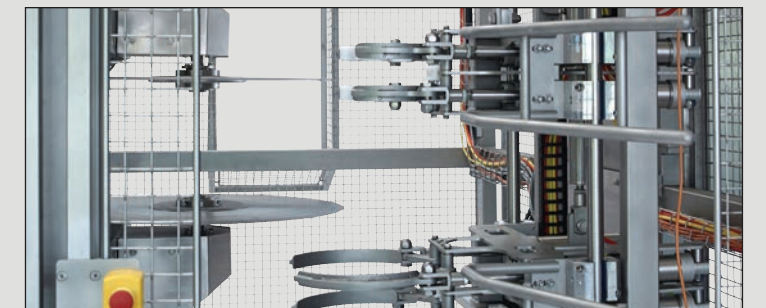


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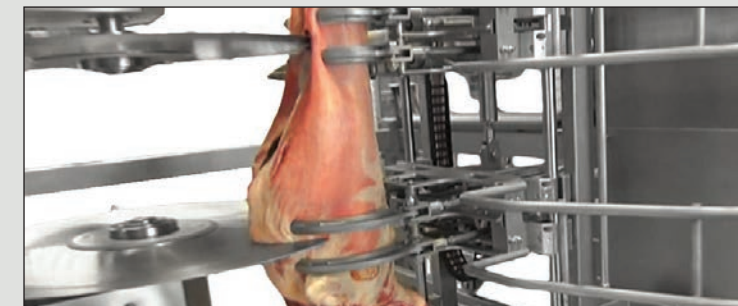


Photo 135



Photo 136

DIGITIZING PROCESSES SAVES TIME AND MONEY

Production and distribution companies in the food industry have unique and comprehensive management needs that cannot be solved in a standard ERP solution or through a traditional automation solution.

Frontmtec has developed the MES system GO, which meets those needs. GO is an integrated and flexible system which provides you with an intelligent production control software suite that enables you to monitor and manage the complete production value chain, from the reception of live animals to the dispatch of the finished product.

GO provides real-time monitoring and control of all critical key performance indicators (KPIs) related to every stage of production, including yield, throughput and efficiency, giveaway, loss of sales, stock levels, movements, traceability and profitability.

Based on an agile framework, our solutions can share data with accounting or ERP systems for order processing and inventory management, as well as with customers, suppliers and product managers.

Increase your uptime with S2

How long time does it take from a breakdown arise until

you have found the location and the cause behind it? S2 provides you with a system, which can minimize the time used for breakdown and faults!

S2 gives you a graphical overview of all your production areas. In case of a breakdown, you will immediately be able to locate the breakdown or fault.

When knowing where to find the fault, it is also important to know the reason behind it. S2 shows you exactly what the cause is, e.g. faults on components, sensors, pushers, network, pulled process stops or pulled emergency stops.

Being able to act on real time production knowledge can ensure that down times are minimized.

Assurance against breakdowns

Online, easy to use maintenance plans are a crucial element to overall effectiveness. S2 offer you this possibility as well.

At any given time, you will be able to monitor your current and historical job list for your maintenance.

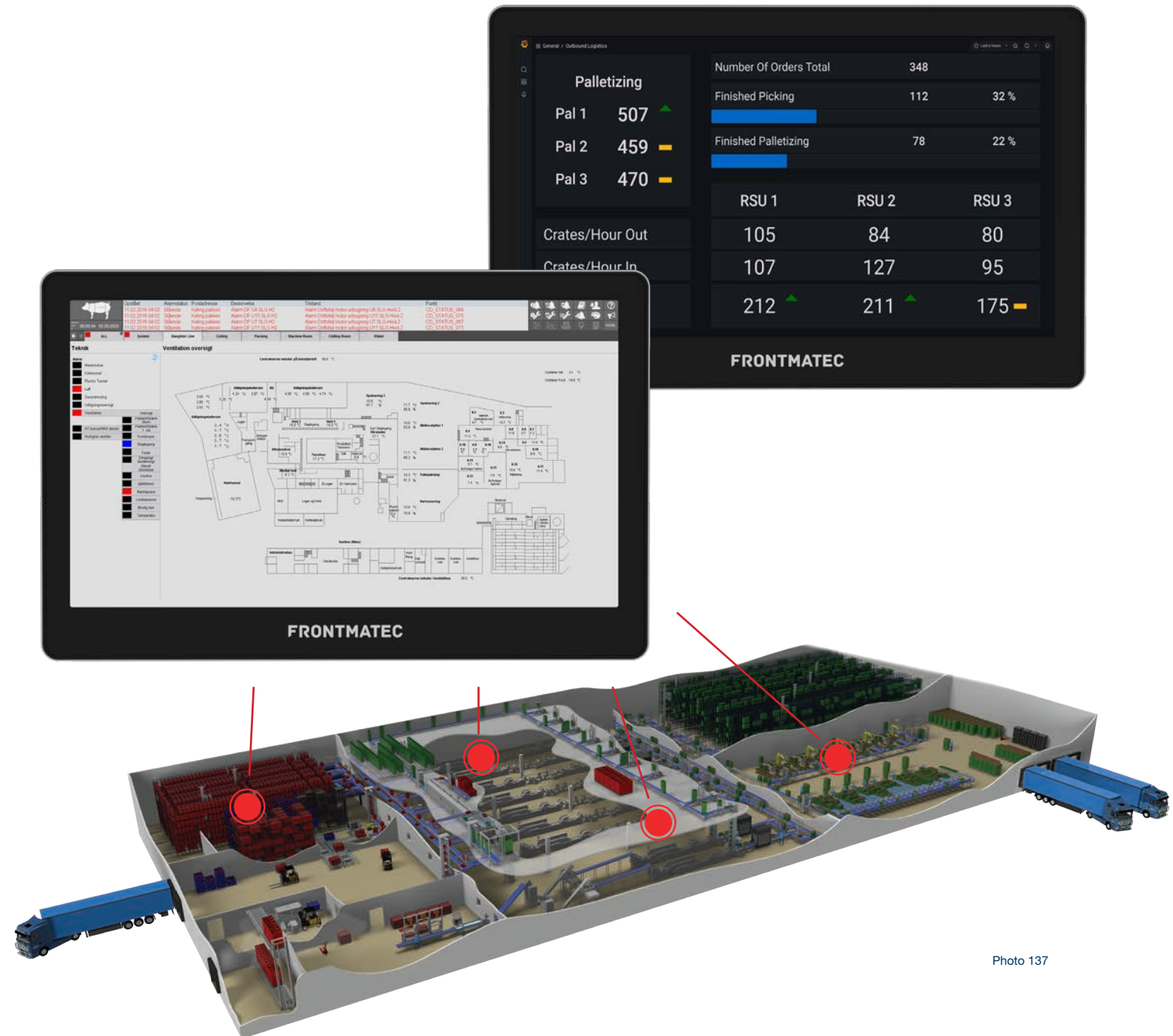


Photo 137

TAILOR-MADE SERVICE FOR A BETTER RETURN ON INVESTMENT

Regular service and maintenance of your production line and equipment will give you a better return on your investment by lowering spare part consumption, ensuring high performance with reduced downtime, and lowering unexpected costs. We offer many onsite services including service on demand, scheduled service and service contracts. Our service contracts are tailor-made according to your specific needs and provide faster service, fixed rates building on a long term relationship.

With a service contract we will optimize your production by solving issues even before they appear and we provide 24/7 support, help desk, online support and remote monitoring.

Our Service Technicians are highly experienced and trained to provide quality service anywhere in the world. Local teams allow us to respond quickly for all on-site services and repairs. If you wish to perform maintenance yourself, we offer service kit rentals for our automated machines and robots containing spare parts and these are always in stock.



Photo 138



Photo 139



Photo 150

FRONTMATEC

Frontmatec develops world-leading customized solutions for automation in the food industry, other hygiene sensitive industries and the utilities industry. We are especially renowned for our high-quality systems for the entire value chain of the meat industry – from carcass grading, slaughter lines, cutting and deboning lines, hygiene systems and control systems, to logistics and packaging.

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