

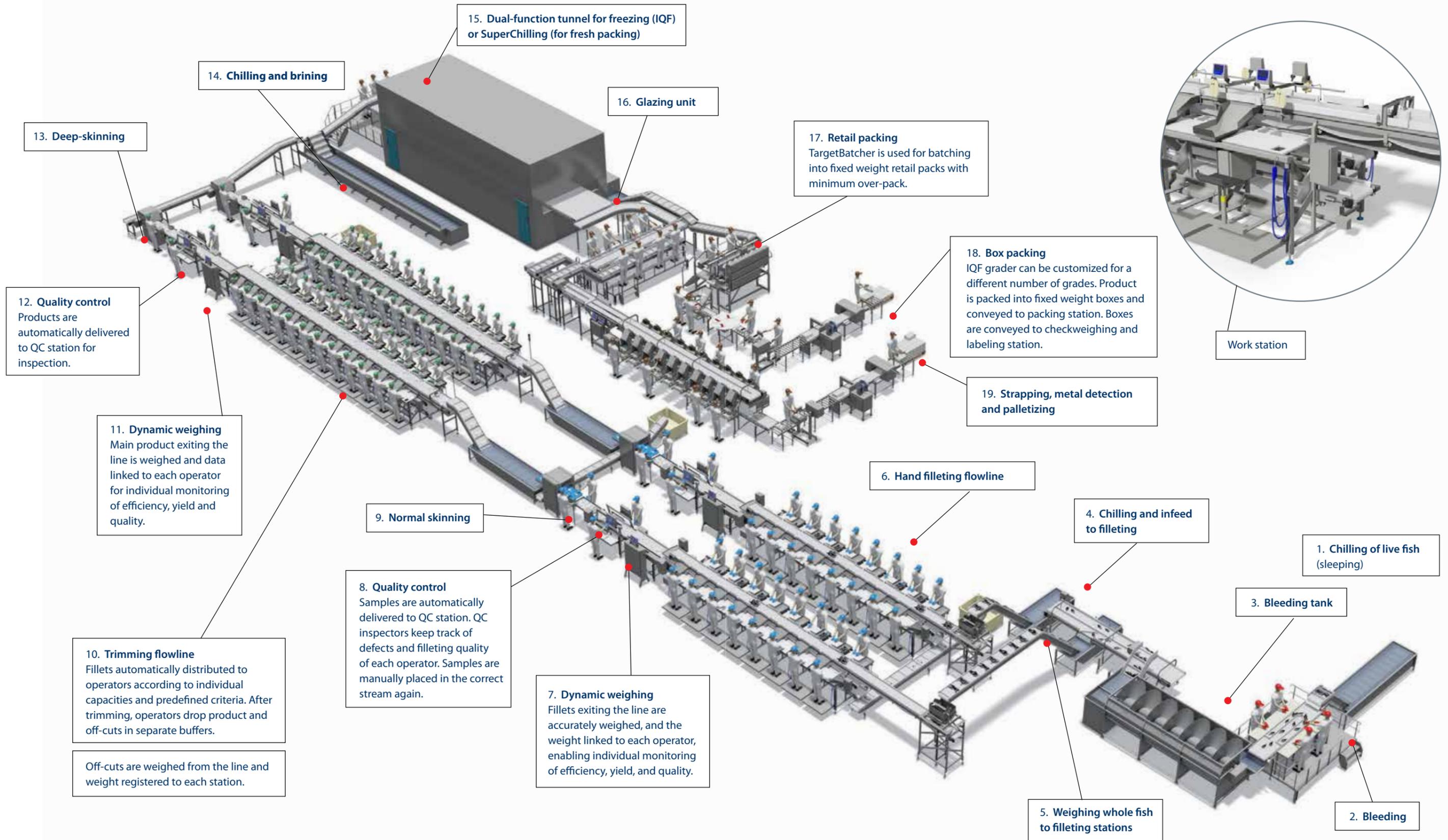
Turnkey Flowline Systems

Streamlined farmed whitefish processing



- Improved yield, throughput, and quality
- Shorter processing time
- Full traceability

Improved processing performance





Marel whitefish processing equipment and solutions are designed to help processors address the factors that most affect final yield and performance. These factors include raw material quality, processing time, and the ability to monitor KPIs.

Marel provides managers with the advanced production management technology they need in order to make profitable decisions along all stages of the value chain – from the reception of raw material and throughout processing to packing, including quality control and traceability.

Marel flowlines are designed to replace manual table or conveyor based processing lines where the raw material is constantly being stacked and stored, and then manually transported between processes.

The ergonomic design, streamlining of processing, and continuous data collection enable processors to greatly reduce processing time and enhance worker performance, while enabling a much higher throughput with improved yield and product quality.

Faster processing and better handling

Marel's Standard Flowline is specifically designed for the filleting and trimming process for farmed whitefish species (tilapia, pangasius, catfish, and more) and enables a continuous flow of the raw material throughout processing. Combined with Marel's Innova software, the system ensures 100% traceability while providing detailed and valuable information on throughput, yield, and quality.

Automatic delivery to individual workstations and product take away

The Standard Flowline operates on three conveyor levels with separate conveyors for all incoming and outgoing product: the top conveyor delivers the incoming product, a second conveyor transports all outgoing product, and a third conveyor the off-cuts. This involves far less product handling and significantly decreases processing time compared to a tray system, thereby greatly improving product quality.

The continuous flow of raw material means a high volume of product can be conveyed to and from the work stations, which considerably increases capacity and helps increase worker productivity.

All incoming and outgoing product is weighed accurately and all data is linked to individual operators. Each workstation is equipped with: a worktable with product buffers for primary and secondary product, a manual adjustable platform, a water gun, knife holder, and data terminal. The data terminals enable operators to monitor performance, both individually and in comparison with the line average.

"With the new processing line from Marel, we managed to improve certain processes greatly, thereby enabling us to increase productivity and quality at the same time. We have all necessary certifications, which is important to us. Today, our product has the unique selling proposition that we have not only a sustainable product but also high quality. This gives us the strength to reach this target group and diversify to new markets."

Max Fernández M., Plant Manager, Terrapez S.A.



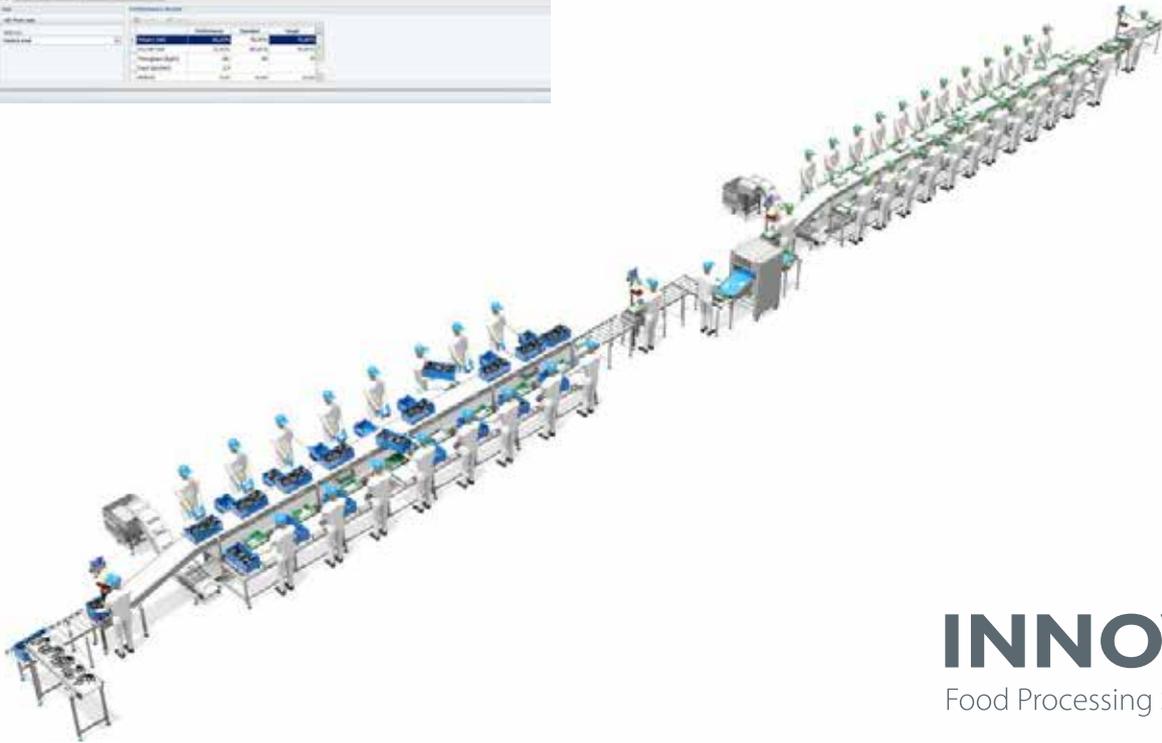
Innova Filleting & Trimming Solution

The Standard Flowline has data integration directly to the Innova Filleting and Trimming Solution, which can also operate standalone or in combination with a plant's existing system. Whether integrated or stand-alone, the Innova system enables fish processors to monitor and control their trimming and/or filleting process.



Innova gives managers more control by enabling them to identify which products are being processed, which employee is working at which station, and which lot is active, as well as trace the raw material to its origin or original purchase order.

Managers gain detailed information on all key data such as throughput, yield, and individual employee performance, thereby enabling targets and criteria to be established and measured. The solution provides both real-time and historical data on a live display and in reports to evaluate system performance.



INNOVA
Food Processing Software



Innova Filleting and Trimming enables production managers to greatly improve overall yield, throughput, and quality.



A powerful combination

Innova Filleting and Trimming Solution with RFID support

- 1 System utilizes one input scale and one output scale per filleting and trimming line
- 2 Input operator weighs each tray at input scale and attaches RFID tag to tray
- 3 Trays are fed to filleting/trimming operators
- 4 Operators log into work station manually or with ID tag at input scale
- 5 Operators use individual ID cards for output product registration
- 6 When filleting/trimming is completed, operators place finished product into tray containing their station ID and RFID from input scale
- 7 Operator at output scale puts tray on scale, scans station ID (to get employee information), scans RFID from input scale (for input weight), and selects corresponding output product from a list
- 8 Product is weighed and registered, and yield and throughput information is updated in the Innova system
- 9 Tray is fed to next processing step

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Marel is the leading global provider of advanced equipment and systems for the fish, meat, and poultry industries.