



Harmonizing sustainability and profitability in the seafood industry

How seafood processors can drive
environmental, social, and governance
excellence for a brighter future

The importance of sustainability has never been more pressing, especially in industries like seafood processing where the delicate balance of environmental stewardship and economic viability is paramount. As the demand for responsibly sourced and eco-friendly products continues to rise, seafood processors find themselves under increasing pressure to not only adopt sustainable practices but also to actively mitigate their environmental impact. This isn't merely an option anymore; it's a critical goal in the face of mounting concerns for our planet's health and well-being.

However, the path to sustainability is full of challenges, particularly for seafood processors who must navigate the intricate web of sustainability, profitability, and operational efficiency. Seafood processing is a complex and labor-intensive operation, often accompanied by challenges such as inefficient processes, high production costs, and underutilized resources.

Furthermore, in today's fiercely competitive market, simply meeting sustainability standards isn't enough. Seafood processing companies must go above and beyond to differentiate themselves, offering products that not only meet high-quality standards but also resonate with consumers' growing environmental consciousness. It's about delivering tangible value to customers while upholding the principles of sustainability throughout the supply chain.



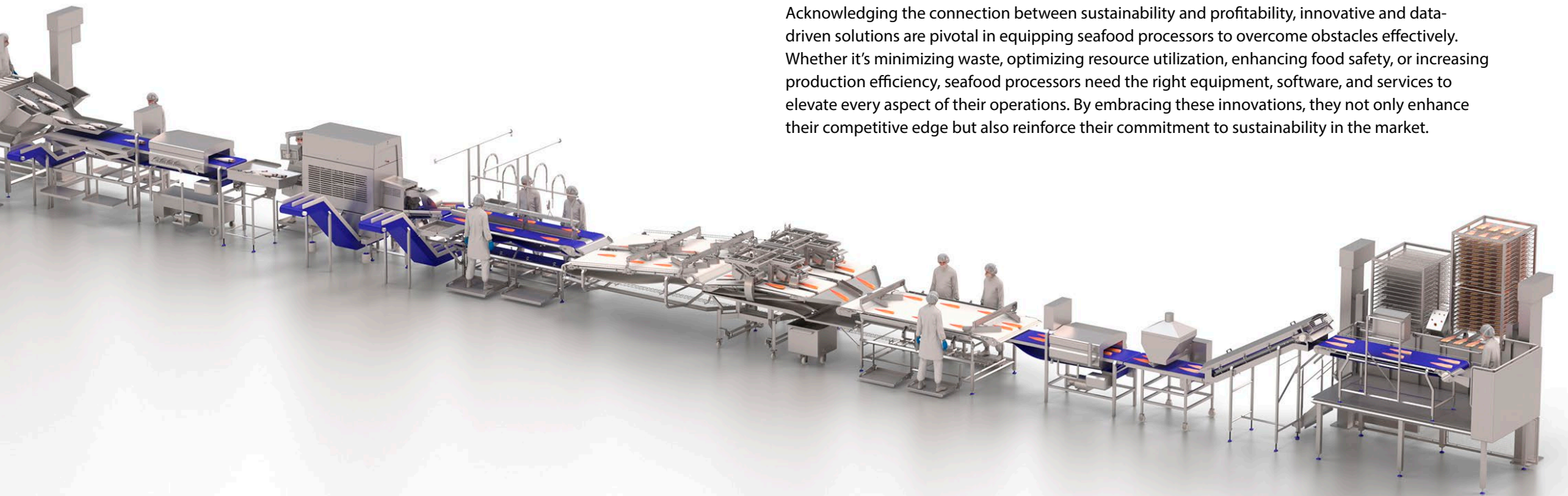
Change requires innovative thinking, strategic planning, and a steadfast commitment to both environmental responsibility and financial success. In doing so, fish processors not only secure their own future prosperity but also play a pivotal role in driving positive change within the industry. They become the trailblazers, setting new standards for sustainability, inspiring others to follow suit, and ultimately leading the way towards a brighter, more sustainable future for all.



In this whitepaper, we dive deep into the essential elements required for seafood processors to effectively integrate sustainable practices throughout their operations. Through analysis and practical insights, we explore the key strategies, challenges, and opportunities associated with implementing sustainability initiatives in the seafood processing industry. By examining best practices and practical examples, this whitepaper provides valuable guidance for processors aiming to enhance their sustainability efforts and make a positive impact on both their business and the environment.

Empowering sustainable seafood production

Acknowledging the connection between sustainability and profitability, innovative and data-driven solutions are pivotal in equipping seafood processors to overcome obstacles effectively. Whether it's minimizing waste, optimizing resource utilization, enhancing food safety, or increasing production efficiency, seafood processors need the right equipment, software, and services to elevate every aspect of their operations. By embracing these innovations, they not only enhance their competitive edge but also reinforce their commitment to sustainability in the market.



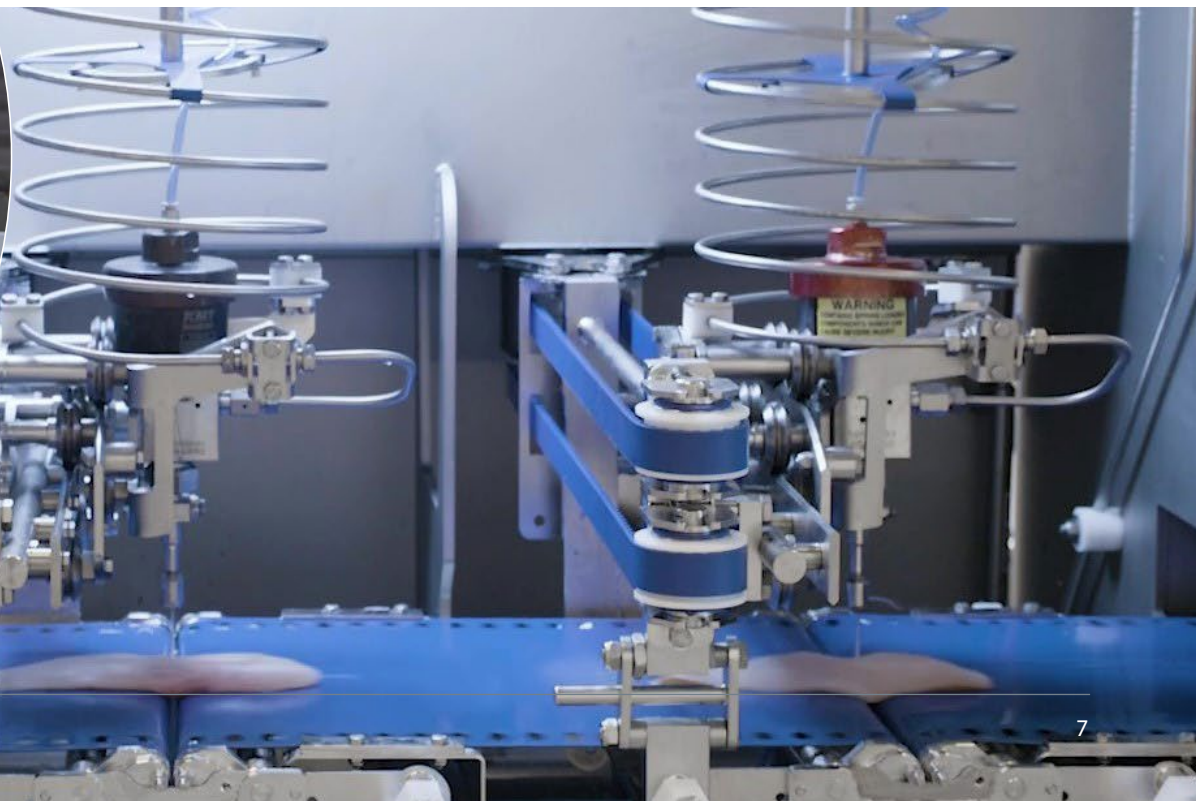
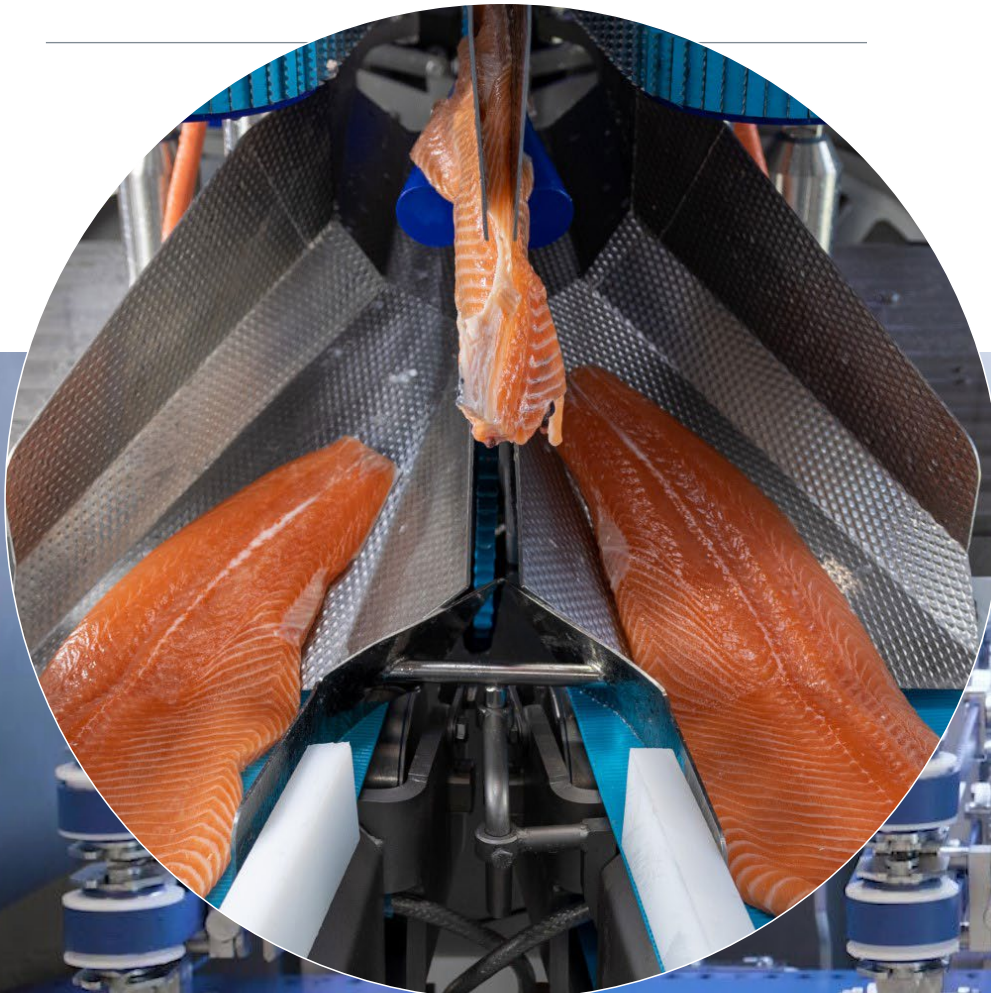
Everything counts

At the forefront of all sustainable efforts is the relentless drive to extract maximum value from every precious resource while minimizing environmental impact. Efficient management of resources such as water, energy, and raw materials is essential for sustainable and cost-effective operations.

Marel's latest innovation in salmon filleting is a testament to this approach. In addition to maximizing raw material utilization, the filleting machine uses only 15 liters of water per minute, saving up to 2.5 million liters per year compared to the competition.

The FleXicut waterjet cutting machine is another example of a machine that optimizes fillet usage by seamlessly integrating pinbone removal, and portioning processes. Utilizing X-ray pinbone detection, it intelligently determines the optimal cut configuration, ensuring maximum efficiency in raw material utilization. Precision is further guaranteed with water-jet cutters, which trim fillets accurately, minimizing waste by cutting as close to the pinbones as possible while using only a tablespoon of water per fillet.

By harnessing these advanced technologies, operations are optimized and contribute to a more sustainable and profitable future.



Transforming food waste into profitable products

Tackling food waste stands as another critical pillar of sustainability within the seafood processing industry. This multifaceted challenge requires innovative approaches that not only minimize waste but also present opportunities for revenue generation. By reimagining what would otherwise be discarded, seafood processors can unlock the potential to transform waste into a diverse array of profitable products.

These offerings span a wide spectrum, ranging from convenient consumables to pet food, skincare formulations, and even medicinal applications. Through creative utilization of byproducts, the industry not only mitigates environmental impact but also capitalizes on untapped economic potential, contributing to a more sustainable and resilient seafood supply chain.

Marel's range of further processing solutions offers customers a pathway to unlock new revenue streams. The offcuts can be repurposed into delectable convenience products, such as uniformly portioned breaded items resembling fish fingers, fillets, or nuggets. This transformation guarantees consistent size and quality, accompanied by a delightful taste and crispy exterior. This seamless integration of technology not only maximizes the utilization of offcuts but also meets the demand for convenient and flavorful fish options in the market.



Harnessing innovation for a greener future

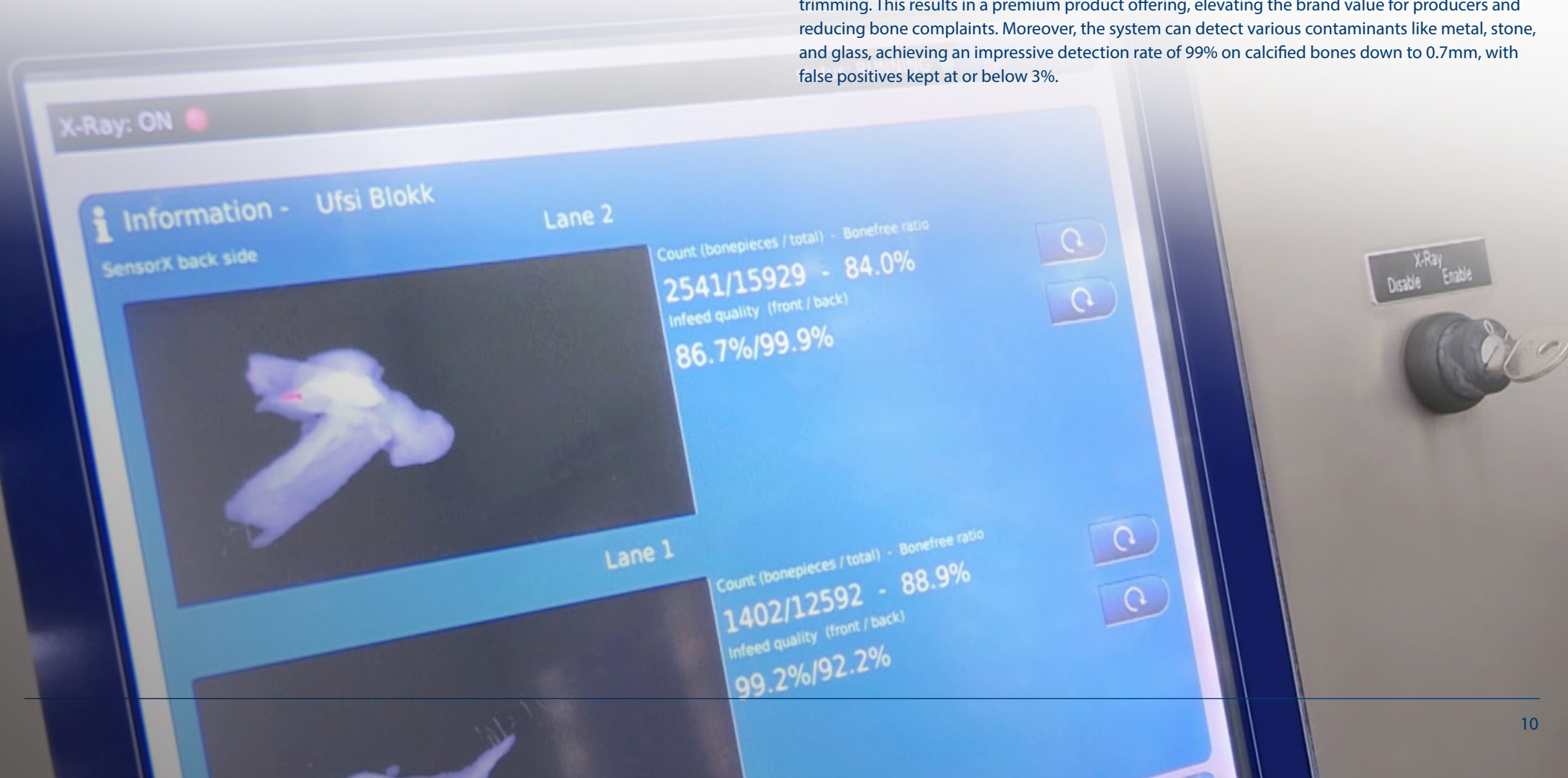
Another cornerstone of any sustainability strategy involves leveraging innovation to drive the fish processing industry towards environmental responsibility. By harnessing cutting-edge technology, advanced data analytics, and machine learning algorithms, processors gain the tools to make informed decisions that enhance efficiency, reduce waste, and elevate product quality.

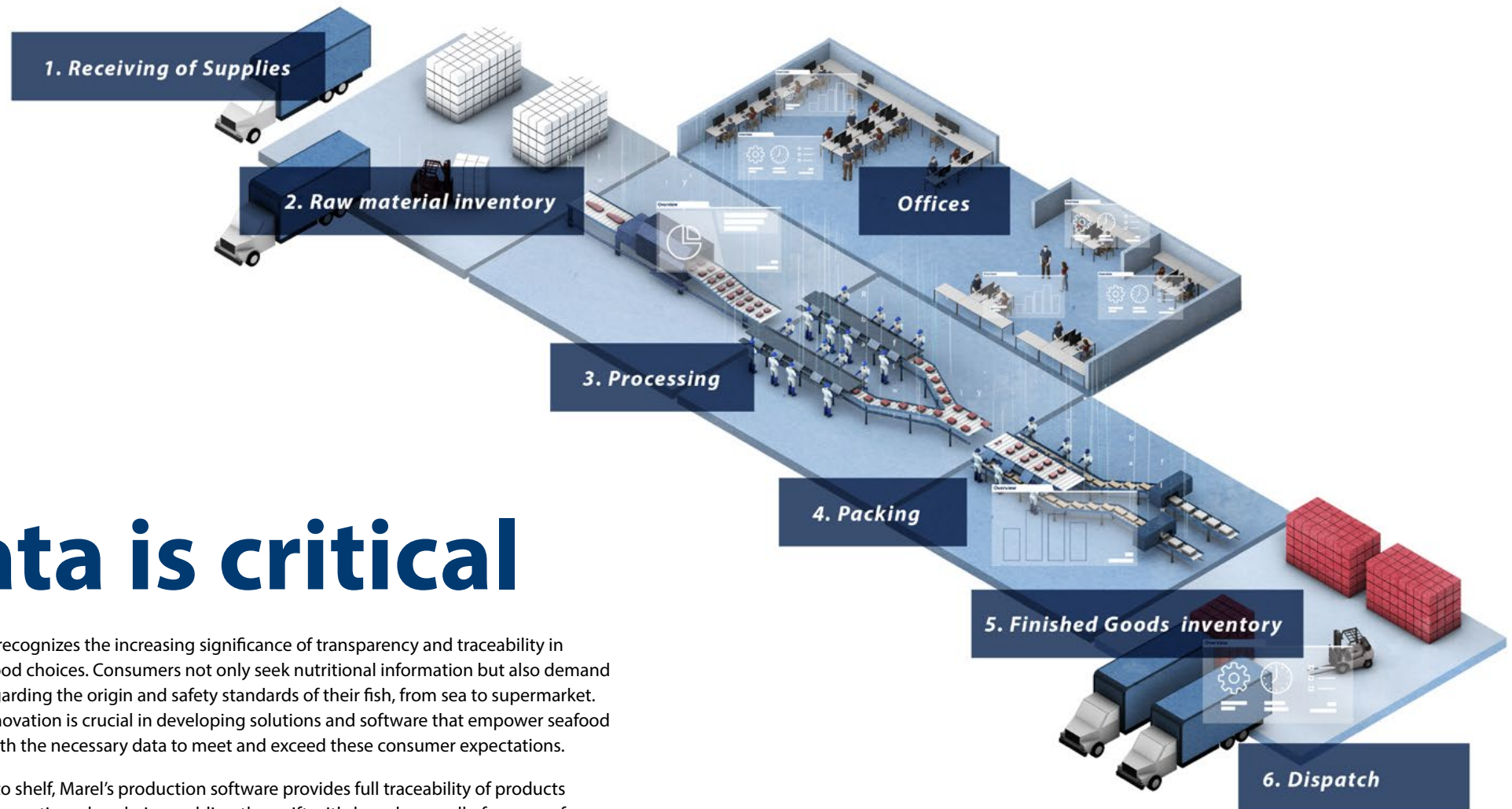


Advancing food safety

Ensuring the quality and safety of seafood products is a top priority for processing companies. Challenges such as product contamination, inconsistent quality, and compliance with food safety regulations are common hurdles they may face. Prioritizing food safety demands advanced solutions that accurately detect hard contaminants, minimize human intervention risks, and elevate the safety of products and the workplace.

Marel offers an efficient bone detection solution for processors aiming for excellence in quality and safety standards. It revolutionizes fish processing with its unparalleled bone detection capabilities, surpassing manual inspection methods and ensuring superior quality boneless fish products. Its advanced technology minimizes product handling, enhancing fish quality and reducing over-trimming. This results in a premium product offering, elevating the brand value for producers and reducing bone complaints. Moreover, the system can detect various contaminants like metal, stone, and glass, achieving an impressive detection rate of 99% on calcified bones down to 0.7mm, with false positives kept at or below 3%.





Data is critical

The industry recognizes the increasing significance of transparency and traceability in consumers' food choices. Consumers not only seek nutritional information but also demand assurance regarding the origin and safety standards of their fish, from sea to supermarket. Therefore, innovation is crucial in developing solutions and software that empower seafood processors with the necessary data to meet and exceed these consumer expectations.

From source to shelf, Marel's production software provides full traceability of products throughout the entire value chain, enabling the swift withdrawal or recall of any unsafe or incorrectly labeled products, directly contributing to food security, operational efficiency, and enhanced nutrition for consumers worldwide.



Leading the sustainable transformation

Sustainability lies at the heart of Marel's business. Through groundbreaking solutions, Marel is committed to not only reducing waste but also enhancing yields and generating economic value for seafood processors around the world. By collaborating closely with partners and customers, Marel is leading the charge in transforming the food processing industry. Through innovative technologies and strategic partnerships, Marel is reshaping the landscape of food processing, ensuring a more sustainable and efficient future for customers, communities, and the planet.