

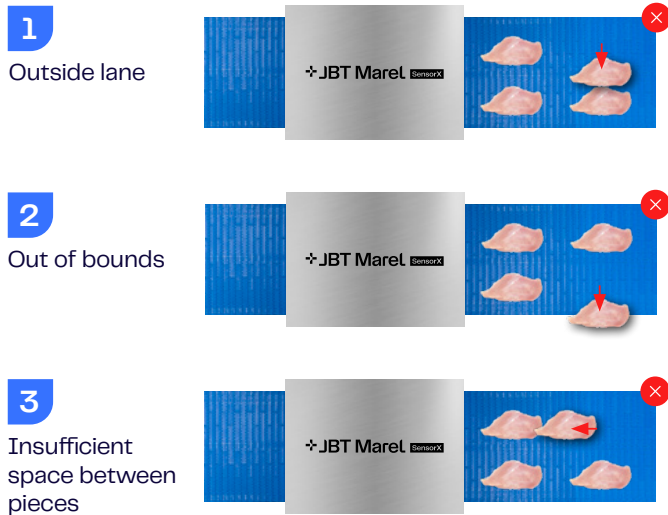
SensorX with Infeed Monitoring

To maintain the highest performance in x-ray bone and contaminant detection, processors often encounter challenges related to infeed quality. Until now, there was no way to monitor this aspect effectively. JBT Marel has addressed this gap with the development of Infeed Monitoring for SensorX.

This innovative feature offers operators and line managers actionable insights, empowering them to make decisions and enabling them to optimize rework processes and improve overall system performance. The result is enhanced yield, greater efficiency and reduced waste.

Positioning issues

Infeed Monitoring is a critical enhancement to bone detection systems, designed to reduce the occurrence of collateral rejects—products rejected due to positioning issues rather than the presence of bones. By offering real-time feedback and actionable insights, it empowers operators to make adjustments and helps management optimize processes, reducing unnecessary labor and minimizing yield loss.



Bone detection process

Bone detection systems use X-ray technology to scan products for bones. As bone size decreases, detecting them accurately becomes more challenging. Detections are categorized as:

- **True Positive:** products correctly identified as containing bones.
- **False Positive:** products without bones incorrectly flagged as containing bones.

In a perfect scenario, only True Positive and False Positive products would be removed for rework. However, collateral rejects—products rejected due to their position—are a common challenge.

Causes of collateral rejects

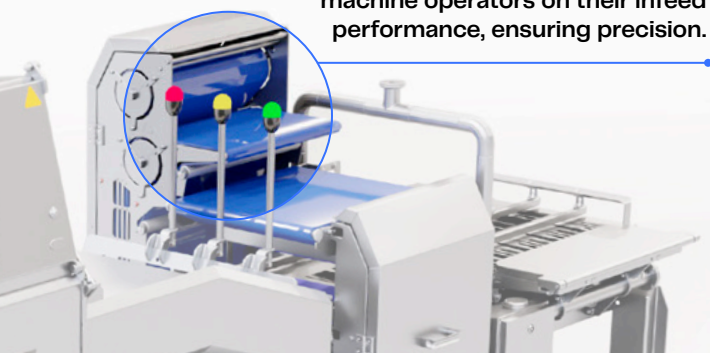
Collateral rejects occur when bone-free products are rejected due to:

1. Incomplete scanning: part of the product falls outside the X-ray detection zone.
2. Proximity to detected bones: products too close to or overlapping bone-containing pieces are rejected together.
3. Cross-lane rejection: misplaced products cause neighboring lane products to be rejected.

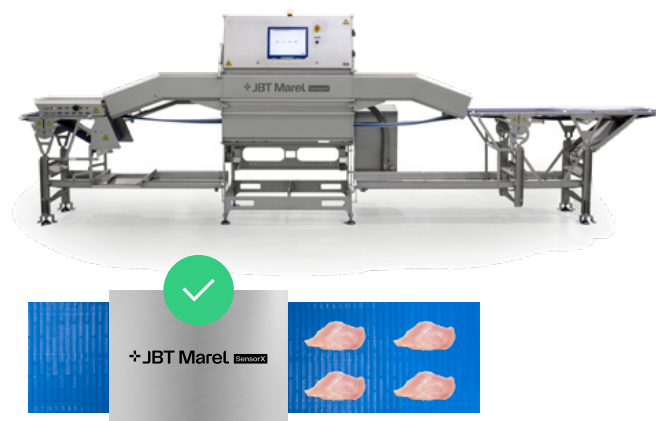
Impact of collateral rejects

- **Increased labor:** extra effort is required to inspect bone-free products.
- **Yield loss:** meat is often removed during unnecessary bone searches, reducing product yield.

Traffic light Indicators mounted on the SensorX visually guide machine operators on their infeed performance, ensuring precision.



Correct flow



Solution: Infeed Monitoring

Infeed Monitoring addresses these challenges by providing real-time visibility into product positioning and alignment, helping operators and managers reduce collateral rejects.

Key Functions

- **Real-time feedback:** alerts operators to issues affecting product positioning.
- **Data collection:** tracks rejection patterns, offering insights for process improvement.
- **Visibility:** enables line operators and management to monitor infeed performance and react in real time if needed.

Benefits

- **Reduced collateral rejects:** minimizes unnecessary product rejection, decreasing rework.
- **Improved yield:** Less yield loss from unnecessary bone searches.
- **Enhanced process control:** data-driven insights help operators and management optimize processes.
- **Labor efficiency:** reduces the need for manual inspection of bone-free products.



Conclusion

Infeed Monitoring is a valuable tool for **improving the accuracy and efficiency of bone detection systems**. By reducing collateral rejects, it helps enhance yield, streamline rework processes, and empower operators and management with actionable insights. This leads to improved overall performance and reduced waste.