



Digitally Transforming Log Inventory Management with RFID Automation

Case Study:

IBC International Bar Coding

Implements Live Logyard Inventory for a Pacific Northwest Diversified Wood Products Manufacturer

Executive Summary

A diversified wood products manufacturer sought to modernize log inventory management at one of its sawmills by replacing manual inventory tracking with a real-time RFID-enabled system. The organization needed greater visibility into log inventory, consumption rates, and raw material traceability while improving production planning and reducing the time required to conduct inventory.

To achieve these objectives, the manufacturer partnered with **IBC International Bar Coding Systems & Consulting** to implement an integrated RFID tracking solution spanning log receiving, yard inventory, production consumption, and manufacturing analytics. RFID-tagged log loads were tracked from arrival at the mill through storage in the log yard and automatically removed from inventory as they entered the sawmill using fixed RFID readers.

The result was a digital inventory platform that provided real-time visibility into raw material availability, improved production planning, strengthened traceability from timber harvest to finished products, and supported data-driven operational decision-making.



IBC Log Infeed RFID Portal



The Challenge

The sawmill processed thousands of loads of logs originating from multiple timber harvest locations. Manual inventory methods made it difficult to accurately determine available inventory, monitor consumption rates, and forecast future production requirements. The manufacturer required a solution capable of:

- Tracking log loads from receiving through production
- Providing accurate real-time log yard inventory
- Automating inventory transactions without interrupting production
- Linking harvested timber to finished wood products
- Supporting long-term production and maintenance planning

Without accurate inventory information, production managers had limited visibility into available log supply, making it more difficult to schedule maintenance shutdowns, optimize harvesting operations, and manage procurement activities.

The Solution

IBC International Bar Coding designed and implemented [an end-to-end RFID inventory management system](#) specifically engineered for harsh forestry and sawmill environments.

The solution included:

- RFID identification assigned to every inbound log load
- Digital receiving processes for loads entering the log yard
- RFID mobile computers for rapid inventory verification and cycle counts
- Fixed RFID readers installed at the sawmill infeed to automatically remove consumed log loads from inventory
- Real-time dashboards providing operational and inventory analytics

The platform connected log inventory with production data, allowing each load to be traced from timber harvest through manufacturing into finished wood products.



IBC Log Infeed RFID Portal 2

IBC's RFID inventory management solution transformed manual log tracking into a real-time digital operation, providing complete visibility into raw material inventory, production consumption, and end-to-end traceability from forest to finished wood products.

Results & Benefits

The implementation provided significant operational improvements throughout the supply chain.

Key benefits included:

- Real-time visibility into log yard inventory
- Automated inventory updates as log loads entered production
- Faster and more accurate inventory verification using RFID mobile computers
- Improved production planning and forecasting tools based on actual inventory levels and consumption rates
- Enhanced traceability linking finished products to timber lots, harvest locations, species, and tree data
- Improved operational reporting supporting procurement, production, and maintenance planning
- **Reduced manual inventory labour by over \$200,000 annually.**



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