

## Case Study Snapshot: Automotive Contract Manufacturer

A major auto manufacturer was experiencing costly machine downtime due to lack of offline setup capabilities. The manufacturer addressed this challenge by implementing the Optel Materials Management Module which provided fully automated offline setup and verification capabilities.

## Materials Management Module

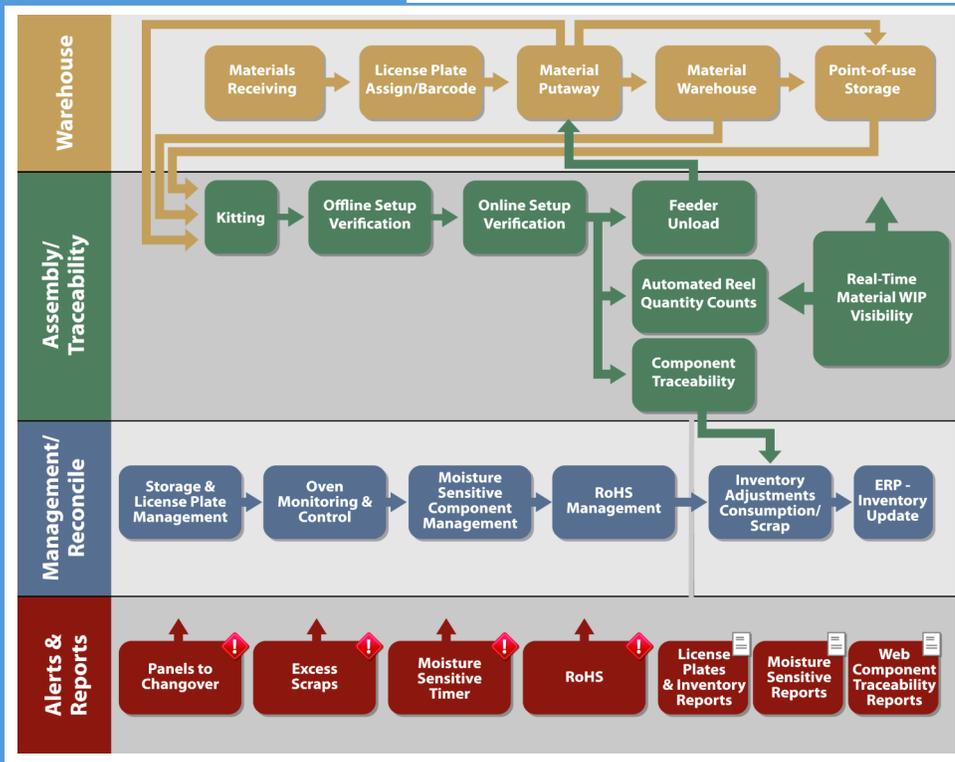
*Today's OEMs and Contract Manufacturers face mounting challenges in meeting growing customer demand for greater product diversity, incorporating lean manufacturing standards and new environmental requirements, and managing supply chain issues – all while maintaining rock solid product reliability. To remain competitive, companies must find new ways of optimizing the production operation, in real-time, to maximize productivity, efficiency and product quality, and ultimately, achieve key business goals and increase profit margins.*

### Module Overview

One of the major changes impacting the electronics assembly process is the shift to a higher mix, lower volume production model. Managing the complexities of this new

manufacturing paradigm demands an innovative approach to materials management in order to maximize production line output, increase materials inventory accuracy, reduce headcount and materials costs, eliminate wrong part placement, and ensure regulatory compliance.

Optimal Electronics' powerful Optel Manufacturing Execution System provides these essential capabilities with the Materials Management Module. This system provides real-time visibility and control of materials movement and status throughout the shop floor — enabling you to meet production demands, without excess inventory. The system's key capabilities include license plating, storage management, receiving and kitting, machine setup and verification, and ERP/ MRP synchronization.



### Before Optel

1 hour average setup time  
9 changeovers per day  
Wrong reels/parts loading

### With Optel

Average setup time decreased 33%  
Wrong part placement eliminated  
\$1.03M annual cost reduction

**License Plating:** License plating capabilities are provided for generating a unique bar code identifier for each materials package received. License plate data is maintained in a centralized database to enable real-time visibility of materials state and location from storage to the shop floor. Materials can managed based on key data such as origin and genealogy, purchase order number, internal and manufacturing part number, manufacturer name, component packaging type, quantity per material package, leaded or lead free, defective, date and lot code, etc. License plating enables materials to be tracked and located anywhere in the plant – eliminating misplaced or lost parts.

## About Optimal Electronics Corporation

Optimal Electronics is a global provider of innovative manufacturing execution system (MES) solutions for the electronics assembly industry.

Optimal Electronics' flagship product, Optel, provides a fully integrated, modular shopfloor control system for production improvement, materials management, traceability and quality management.

With Optel's real-time visibility, you gain greater control and management insight for better planning, decision-making and execution across every aspect of the production process.

### For more information

To learn more about Optimal Electronics' Optel MES solution or the capabilities of the Materials Management Module, contact: 512-372-3415 or [info@optelco.com](mailto:info@optelco.com)

### Optimal Electronics

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**Materials Storage Management:** Robust storage management capabilities enable you to gain more granular control over materials inventories to prior the production process. Storage shelves, bins, and slots can be defined and marked for easy reference and policies can be set for the optimal materials grouping and arrangement within designated locations. The module provides tracking capabilities for managing each item – including materials that have been created, lost, deleted, modified, etc; materials that are received, in transfer, in storage, kitted, on/off feeder or machine, in oven, etc.

**Materials Receiving and Kitting:** Receiving and kitting processes can be automated and enhanced based on your production needs. The system provides capabilities for efficiently managing kitting activities – such as determining kitting type and picking priorities; pulling sufficient quantities for part placement; determining which reel will be used first; verifying feeder type, rotation, and height; and ensuring lead free compliance. These capabilities enable you to streamline receiving and kitting processes, improve machine utilization, and reduce downtime for the production line and hand assembly staff.

**Machine Setup and Verification:** Achieve new levels of efficiency by automating offline and online setup and verification processes. Offline setup functionality can be used in the stockroom or the point-of-use setup area to associate materials license plates to the feeders for each setup. The system automatically assigns reels to feeders, verifies that the parts and part numbers loaded on the feeder belong to the setup, verifies materials for substitute parts, and performs feeder maintenance checks.

With online setup capabilities, verification can be automatically performed on the SMT machine, at assembly time, to validate that the machine programming matches the materials and specified slot locations. With automated setup and verification, machine setup time is dramatically reduced, component tracking is improved, and wrong component placement is eliminated.

**ERP/MRP Synchronization:** Using industry-standard database protocols, the system can import and export data to provide synchronization with your MRP/ERP system. Unlike MRP/ERP systems, the Optel MES system provides real-time visibility at reel level – rather than aggregate total part counts – for the shop floor, warehouse, and other locations. Data exchange can include such information as inventory and BOM data, storage locations, customer and work order data, finished goods inventory, usage and scrap reporting.

### Material Management Features

- Real time inventory and warehouse storage management
- Plant-wide real time material locating and visibility
- Bar code/license plate generation
- MPN validation
- Automated picking and kitting control
- Offline and online setup functionality
- Global attrition control
- MSD tracking and alerting
- Duty cycle based feeder maintenance management
- Reporting
- ERP/MRP synchronization