



## Case Study Snapshot: \$28 Billion Contract Manufacturer

A major contract manufacturer was experiencing costly production delays due to the excessive time required for manually counting parts and locating reels across 9 SMT lines. The manufacturer addressed this challenge by implementing Optimal Electronic's Optel system which provided automated component counting and reel locating capabilities.

**Before Optel:** Manual process for counting parts and locating reels required 15 people across 4 shifts.

**With Optel:** Automated component counting and reel locating expedited production and reduced personnel to 3 people across 3 shifts.

## Component Traceability

*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.*

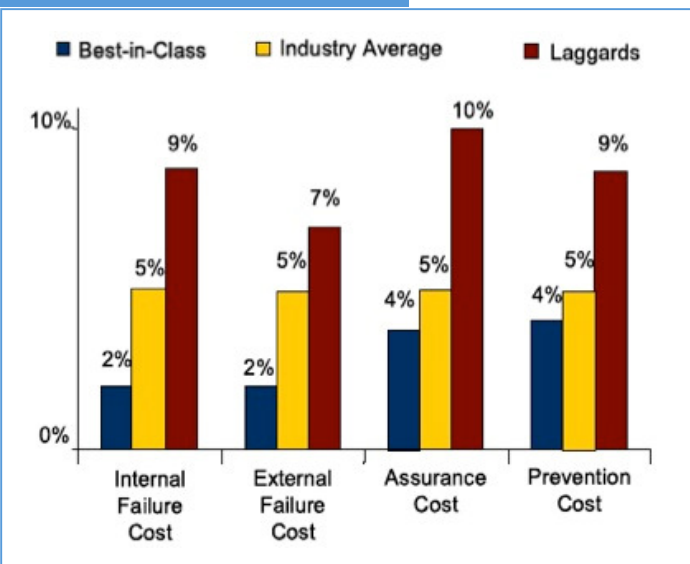
### Capabilities Overview

One of the major changes impacting the electronics assembly process is the increasing market demand for detailed component level traceability throughout each stage of the assembly process. Managing the myriad complexities involved in achieving accurate component traceability, at the most detailed level, requires an automated and cost-effective approach for meeting customer expectations, while minimizing costs, human intervention and headcount.

Optimal Electronics' powerful Optel Manufacturing Execution System (MES) provides comprehensive capabilities for accurate work order level, panel level, and component circuit level traceability by interfacing directly with SMT placement machines on the production line. Optel enables online setup verification to be fully automated, ensuring that the correct parts are loaded into the correct SMT machine slots. With the Optel system, your manufacturing operation can also leverage automated capabilities for real-time component cycle counting and advanced parts outage warnings to significantly reduce machine downtime and increase production output.

**Component Traceability:** The Optel system provides instant access to date and lot code information for every component within a work order. Optel's component level traceability, with the serialization option, enables the identification of components installed, per reference designator, on individual circuit assemblies. With Optel's serialized circuit assemblies option, reference designator traceability data is automatically captured for all circuit assemblies. These detailed traceability capabilities provide the precise control needed to allow you to effectively meet quality standards specifications.

**Online Setup Verification:** Through real-time communication with your SMT assembly machines, the Optel system performs automated online setup verification during changeovers. The system verifies that the SMT machine's programming matches the material and designated slot locations.



### Aberdeen: The Traceability Gap

- Best-in-class companies at 48% traceability automated
- Non best-in-class companies at 34% traceability automated

## 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 our Optel MES solution or the system's component traceability capabilities, contact Optimal Electronics at 512-372-3415 or [info@optelco.com](mailto:info@optelco.com).

### Optimal Electronics

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Using feeder and machine slot license plating and barcoding, Optel automatically performs online setup verification to validate the scanned feeder and corresponding SMT slot. The system also performs program checks and locks the machine if the wrong part is loaded. These automated capabilities allow you to achieve dramatic improvements in changeover time and avoid costly downtime due to material management errors.

**Automated Component Cycle Counting:** As a result of the system's SMT machine interface and online setup verification, Optel automatically maintains an accurate count of components placed.

- *Component consumption tracking:* Component consumption is recorded in real time and the quantities placed are deducted from license plates that are part of the setup.
- *Component attrition tracking:* Component attrition is recorded in real time and the quantity scrapped is deducted from license plates.

**Advanced Component Outage Warning:** The Optel system allows you to set and adjust your appropriate Part Outage Panel Threshold. This threshold identifies the level at which a visual warning will be displayed to the SMT machine operator to indicate feeder change requirements before material is depleted. If the number of panels that can be placed with the remaining component quantity on a feeder falls below the threshold value, the operator is warned of imminent part outage.

These automated component counting and outage warning capabilities enable you to eliminate reel counting headcount, maintain accurate reel count quantities including scrap, and utilize advanced alerting to avoid machine downtime.

### Component Traceability Features

- Real-time communication and feeder verification
- Complete component traceability report for each reference designator
- Automatic component cycle counting after each panel on each module
- Automatic download and saving of machine performance data
- Real-time graphical interface for machine performance monitoring
- Real-time scrap data collection
- Excess scrap warning, visual for the operator and via e-mail for supervisors
- Support for reel splicing
- Feeders common between jobs stay verified after changeover
- Setup verification history report
- Component consumption and attrition tracking
- Advanced component outage warning

### Online Setup Features

- Initial setup verification
- Feeder changeover verification
- Splicing
- Print setup configuration
- Viewing for setup and material history
- Machine status