OPTIMAL ELECTRONICS

Optel Software

Optimal Solutions for Electronics Assembly

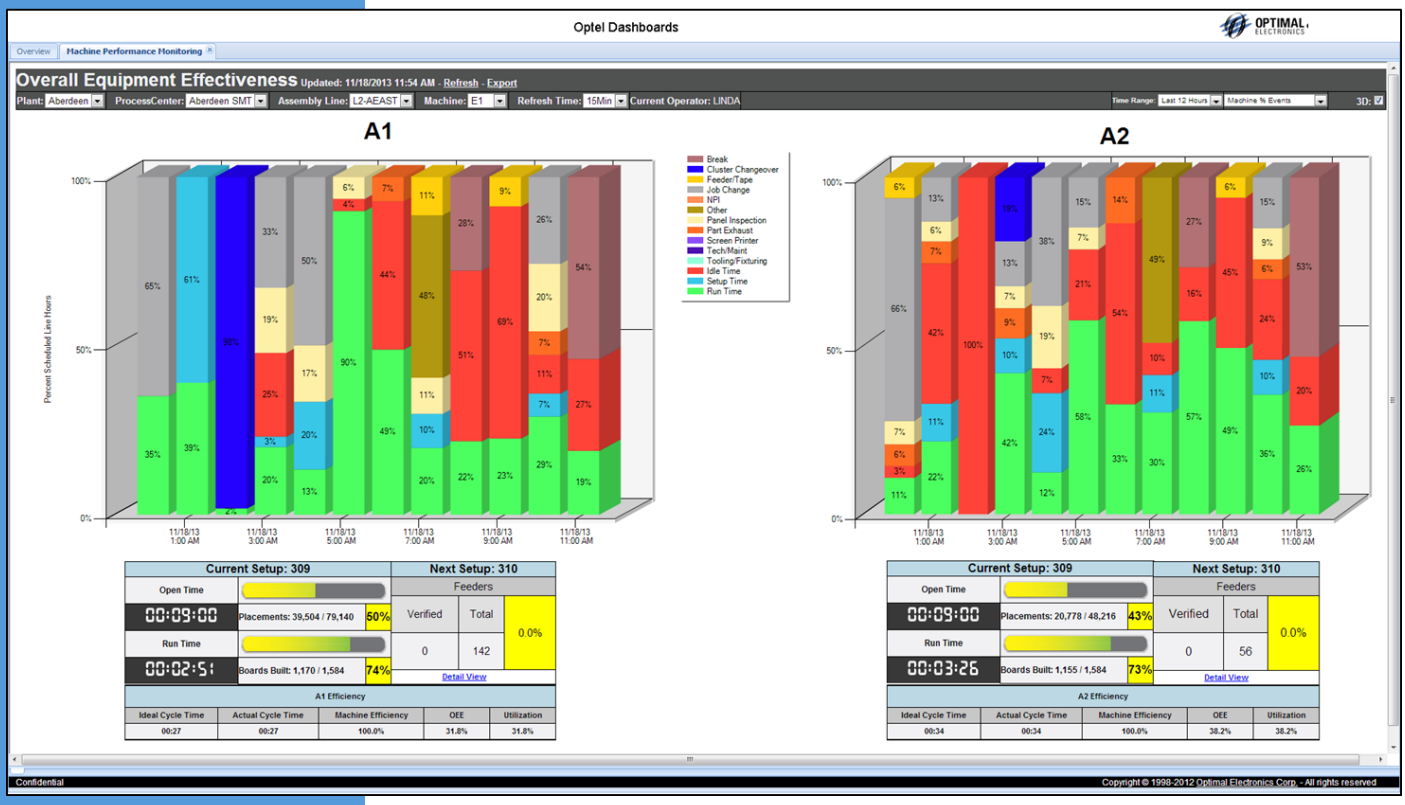
Optel Solutions for SMT lines with MYDATA Machines

Overview

Optimal Electronics provides optimized solutions for electronics manufacturers with Mycronic's MYDATA placement machines. Optel increases MYDATA utilization, reduces setup errors, and lowers cost.

This is achieved by addressing complete materials management, off line setup, machine optimization and programming, component traceability, machine performance monitoring and downtime tracking. Real time communication with MYDATA TPSys server enables these solutions.

Optel Real Time Performance Monitoring



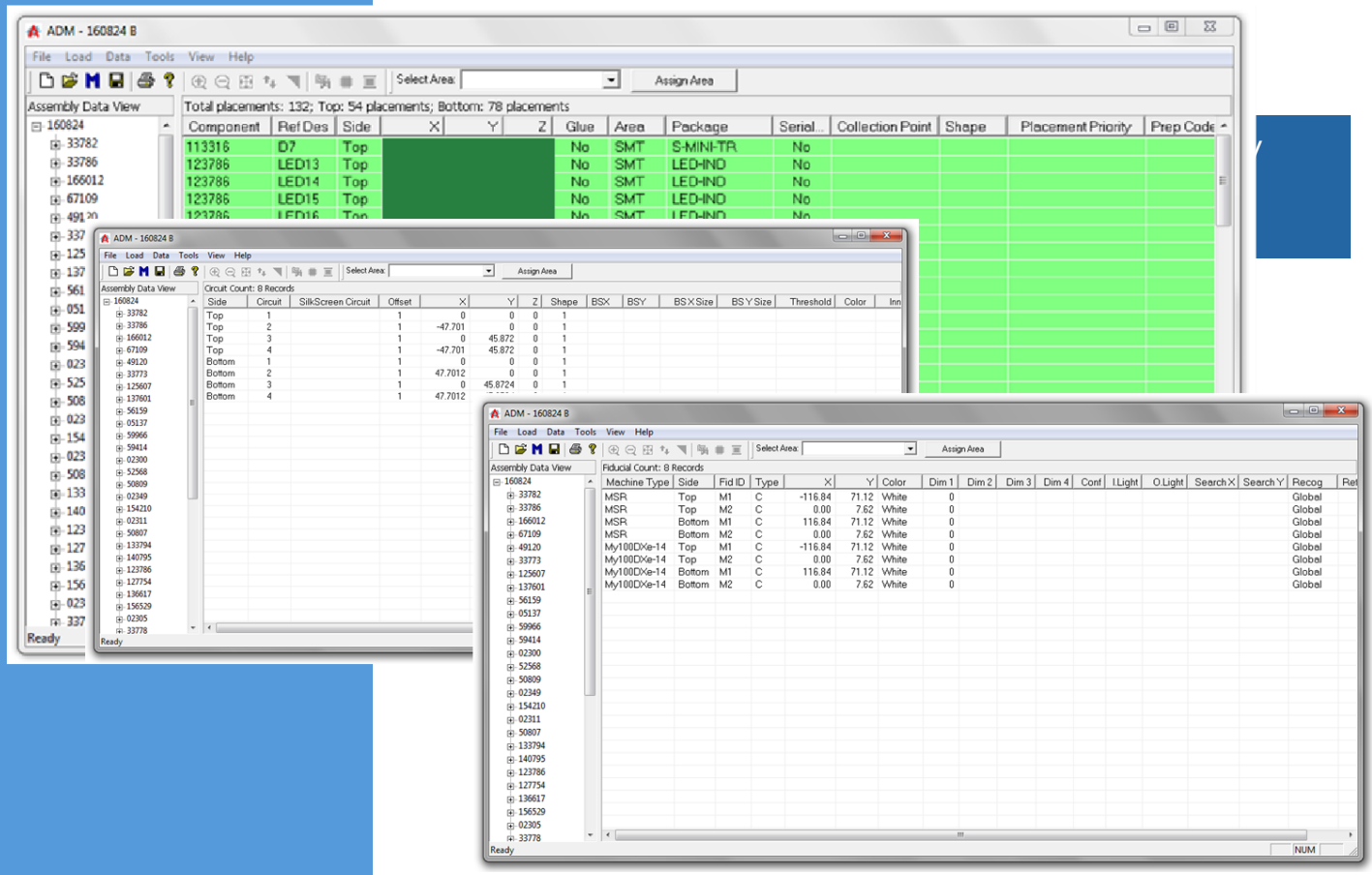
Key Features

Optel solutions for MYDATA assembly lines contains the following features:

Assembly Data Modeling

- Assembly definition and loading CAD and BOM data.
- Optel can import GenCAD or IPC-2581 CAD format file and merge it with BOM imported from the ERP system.
- Additional data is defined: panelization, fiducials, process routing, etc.
- Assembly data is sent directly to MYDATA TPSys Server from Optel.

Optel Assembly Data Preparation



Materials Receiving

- If materials are received and serialized by customer's ERP system, a flat file is exported into a shared folder where Optel reads it and loads data into the database.
- If materials are not serialized by customer's ERP system, materials are received and serialized in Optel.

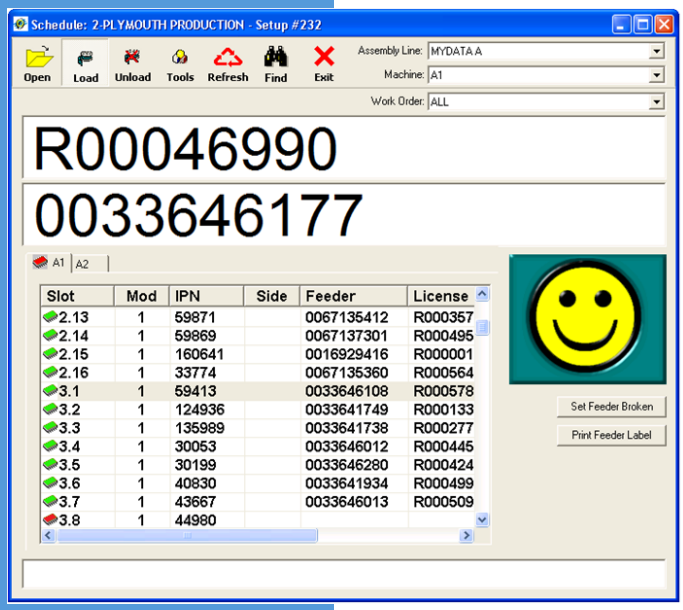
Complete Materials Management

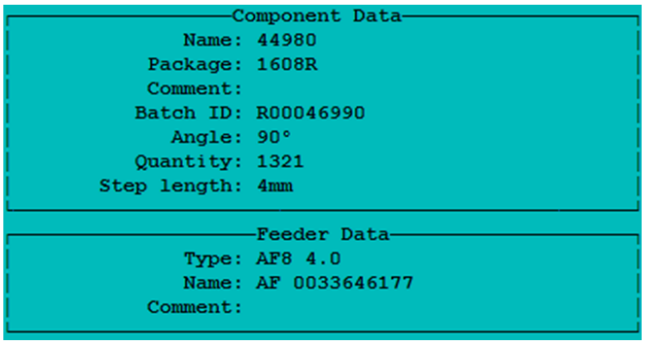
- **Supermarket Management**. Optel manages floor stock material storage and retrieval. Material handlers use Optel Mobile for put away and picking.
- **Kitting**. Optel creates a Pick List based on inventory counts and material location, as tracked in real time.
- **MSD Tracking**. Optel tracks location, exposure time, and remaining time for all moisture sensitive materials, including remaining time tracking of materials currently on machines.
- **Material Location Tracking**. Optel tracks, records and reports every material movement and location of each material ID.
- **Real Time Component Consumption and Scrap Data Collection**. Optel collects consumption and scrap counts on all MYDATA machines in real time.
- **ERP Inventory Adjustments.** Optel sends consumption and scrap usage.

Off Line Setup Verification

- All setup verification for MYDATA machines is performed off line. The license plate and feeder are scanned to verify the part number belongs to the job.
- All setup verification data captured (part number, feeder ID, reel ID, quantity, and rotation) is sent to MYDATA TPSys from the Off Line Setup Verification Module.
- Optel checks whether reel is lead free for a lead free job and whether reel is locked-out or set as defective.

Optel Off Line Setup Verification





MYDATA TPSys window displays component data transferred from Optel.

Real Time Machine Control

- Setup changeover is fast as already verified magazines are inserted into machines slots and verified by Optel.
- Optel connects to each machine via TPSys server to send assembly and setup verification data and collect machine performance data in real time.
- Operator alerts are provided for advanced material outages, excessive scrap rates, and moisture sensitive exposure time expiration.

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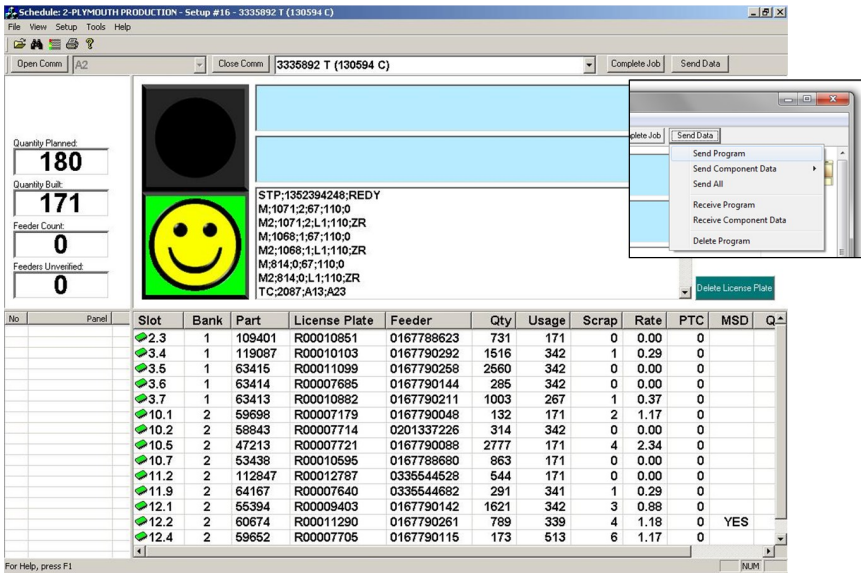
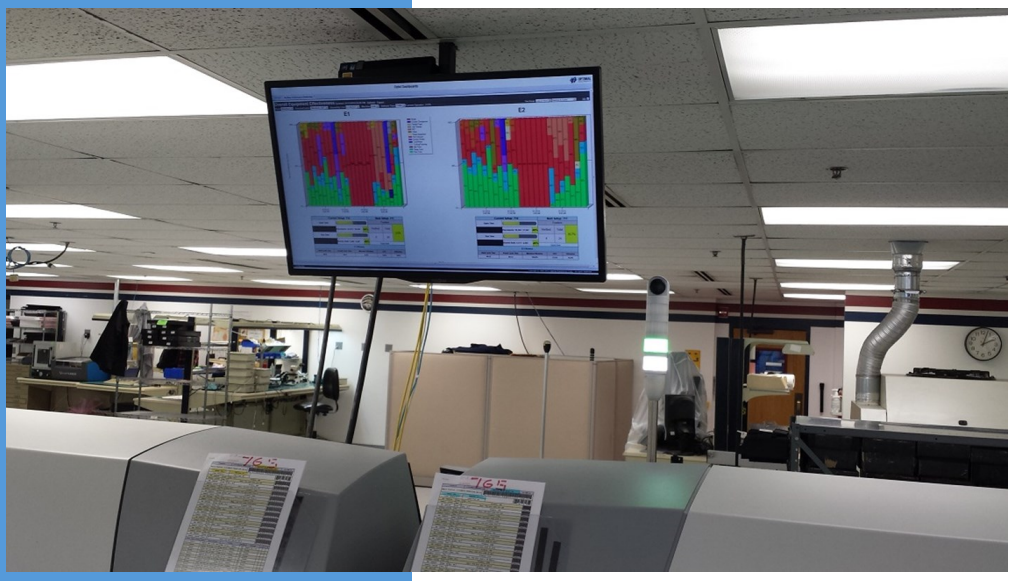
Optel Setup Verification and Program Transfer



Real Time Performance Monitoring and Downtime Tracking



- Optel automatically captures and tracks run time, setup time, idle time, and downtimes for MYDATA machines using machine performance data captured in real time.
- Performance data graphs are displayed by hour/shift/day/month.
- Pareto charts for downtime event frequency and event down times are used.
- Downtime data is captured with customer defined downtime reasons as selected by operators.

Benefits

- Only clean programs are used
- Programming errors are caught before jobs run on the SMT lines
- Eliminate time spent for on-machine programming and setup verification
- Eliminate machine downtime due to unexpected part shortages
- Minimize material replenishment time with advanced part outage warnings
- Minimize component scrap
- Saving time in locating materials
- Faster and increased accuracy in kitting
- Gain real-time insight into machine utilization and downtime, and reasons for downtime

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