



ToolTrack MES Transforms Silicon Valley Foundry

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"As our business grew, we needed a flexible system that could handle over 1,000 variables of service offerings and ToolTrack was the clear choice." -Brenda H., Noel Technologies

The Typical Issues of Mid-Size Manufacturers

"Spreadsheets quickly become too cumbersome to maintain as manufacturing processes develop."

- 1. The pitfalls of Excel.** Too often, applications like Excel are used for something more than what they were designed for, and this can easily extend to a growing company which needs to keep track of its operations and inventory. Spreadsheets quickly become too cumbersome to maintain as manufacturing processes develop.
- 2. Need for flexibility.** Before long, the organization can be dependent on a spider-web of file attachments, emails and document links which provides limited visibility as to what's happening in real-time, which in turn can hurt the bottom line.
- 3. Most critically, inertia.** Usually people recognize a broken system very quickly, but the business processes are so entrenched that it can be difficult to see the pathway to a more robust solution. The best approach is to tackle the issue without assumptions or pre-conceptions. It doesn't matter how you've *been* doing things, it only matters how you *should* do them!

The ToolTrack Solution

Noel Technologies, based in Campbell, CA engaged with CRS in 2015 to implement a new operations management system, ToolTrack MES, that would replace their existing systems and reduce the shop floor management overhead. While many areas of operations were significantly improved with ToolTrack, Noel was able to address 3 major symptoms.

1) A manufacturing software platform with enterprise reliability.

Single Source of Truth: It's easy to get confused and misprocess material when processing instructions are spread across paper, emails and online documents. Which set of process instructions is complete and/or current? With ToolTrack, there is a single source of data and instruction that is managed by the people who have the proper authority to do so; there is never a question of what should be done. In addition, the modular building blocks of ToolTrack enable efficient usage of operations, recipes and routing blocks. Noel was able to reduce the number of traveler types by more than 30% and push process changes to the shop floor immediately through the web interface.

2) A decision making dashboard available from anywhere.

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- **Visibility:** Since Noel provides a foundry service, every wafer in the facility belongs to a customer. Before ToolTrack, it would take valuable time to figure out the exact position of the customer material and provide a realistic ETA. With ToolTrack, a single mouse-click populates an Inventory Dashboard that displays all material in each area of the fab broken out by customer and sales order. Operations management can spend time doing important things as opposed to looking through a stack of paper travelers and talking to the technicians on the floor just to let a customer know when to expect their wafers.
- **Single Application Interface:** Noel is now able to capture ISO audit data and corrective actions to be implemented, and then make those changes in a revision-controlled document without leaving the ToolTrack application. All of these critical functions are linked so you can easily find the “who/what/where/when/why” of any event.

3) Risk is low because of our flexible operational baseline.

Low Cost and Low Risk: The implementation process was built on a series of discussions between Noel Operations management and CRS system architects to assess the business needs and solution design. The one-time implementation cost was inexpensive because the baseline was built to support rapid application development; the full system deployment for Noel was quoted at less than 10% of what many competitors charge. After the initial setup period (~6 weeks), Noel provided detailed input on functionality and the system was iterated upon until Noel had exactly what they wanted (roughly another 2-4 weeks). Noel was also able to begin training users on the core functionality within a live system while enhancements were being transparently added in the background.

At CRS, we're manufacturing people first... we "get" it, so the process is stress-free and fast.

About Noel Technologies

Noel Technologies (www.noeltech.com) is a successful Silicon Valley foundry that specializes in the development and optimization of a wide variety of semiconductor processes. CRS implemented ToolTrack MES in Summer 2015 without disruption to operations. Noel has continued to harvest productivity gains and remains a satisfied customer.