



**On the road to Lean  
with UltraSource.**



# The road to Lean started in the East. *The Far East.*

A lot of people we meet in the course of doing business are very interested in how we first got on the road to Lean Manufacturing. When we founded UltraSource in 1991, we and virtually every other manufacturer had never even heard of Lean Manufacturing. Lean was a “concept” developed and used by Toyota Motor Corporation. They called it Toyota Production System or TPS. Toyota has long used TPS to solve its operational and organizational problems, and to eliminate waste wherever it is found. They still rely on it today. With Toyota on the verge of becoming the number one automaker in the world, it is plain to see that the benefits of Lean Manufacturing go a long, long way.

## **Our route to Lean took a slightly different path.**

Our reason for adopting Lean Manufacturing was our desire to help our company help its customers. Since 1991, our goal has been to become a leading supplier of custom thin film circuits and interconnect solutions. Specifically, reproducible devices that solve critical board-level challenges. After a dozen or so years in business, we felt as though we were reaching that objective. However, we were still not satisfied, so we shifted into a higher gear. In 2004, we brought in a new Director of Sales, who along with a restructured sales team and a newly hired marketing firm helped us to increase sales bookings by 30% over the course of one year.

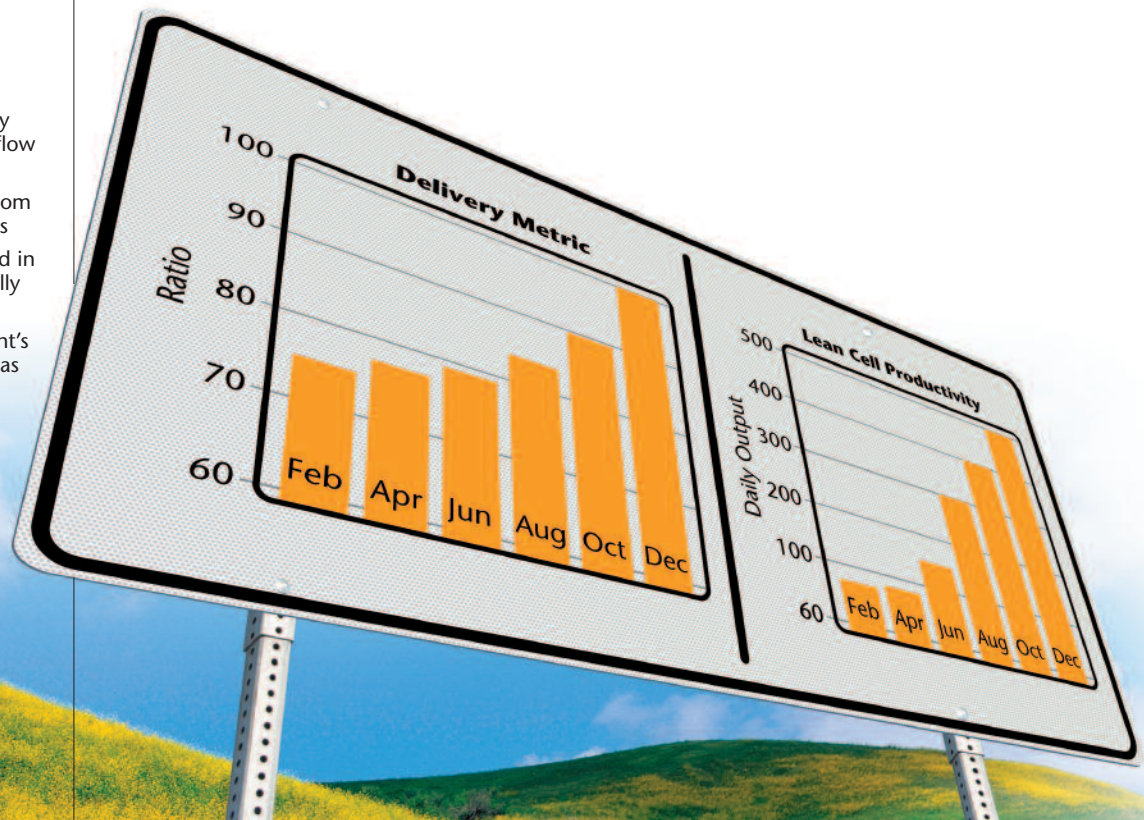
During that same time period we installed a full management team, encompassing Manufacturing, QA, HR, and Engineering. We also invested more than \$1Million in new equipment, hired an additional 30 employees, and constructed a state-of-the-art manufacturing cleanroom. After making all of these improvements, we thought that we were off to the races.

## **Unfortunately, we began hitting a few bumps.**

It did not take long for all of these great results to begin to falter: OTD fell below 70%, per employee productivity sank, and profits hit the skids. Even with all the positive changes we made, our operations became inefficient. The reason for this rough ride? Like so many companies that expand quickly, we lost

### **The signs of Lean are apparent throughout the factory:**

- Daily output of a critical Lean productivity metric has increased by 475%
- Manufacturing clean room is totally reorganized to maximize product flow
- Research and development and marketing efforts have benefited from time-slotting for specific prototypes
- Quality group is officially integrated in the manufacturing flow, dramatically improving their productivity
- Application engineering department's connection to the feedback loop has resulted in new innovations
- Manufacturing Engineering is now providing pinpoint projections of product output and timing
- Quality and on-time delivery numbers are improving month after month





Brief check-in meetings and status boards keep Lean initiatives moving along.

our ability to focus on executing productive, value-added processes that could provide our customers with the long-term, repeatable service and quality they expected.

### A book that became a roadmap for UltraSource.

At the time, we were searching for a reason as to why this was happening. That is, until our company founder, Michael Casper, picked up a book in June 2005 that would transform his understanding of manufacturing and operations management forever. That book was *The Toyota Way* by Jeffrey Liker. Written in 2004, it explained the management and operating principles of Toyota Motor Corporation, which are now known as TPS or Lean Manufacturing. After reading the book several times over, as well as studying other books on the subject, Michael Casper began to see how “Anti-Lean” UltraSource had become.

### It was time for UltraSource to make a U-turn.

It took some doing, but Michael Casper convinced his staff that a Lean transformation was an absolute necessity for UltraSource. The next big roadblock to get around was implementing it. To be successful, and to provide the most value to UltraSource customers, Lean was first implemented in Manufacturing at UltraSource. This was no easy road to travel, but it had to be done.

A year after Michael Casper picked up a copy of *The Toyota Way*, the root causes to many of the problems that were present in manufacturing and operations were beginning to be understood and, more importantly, dealt with.

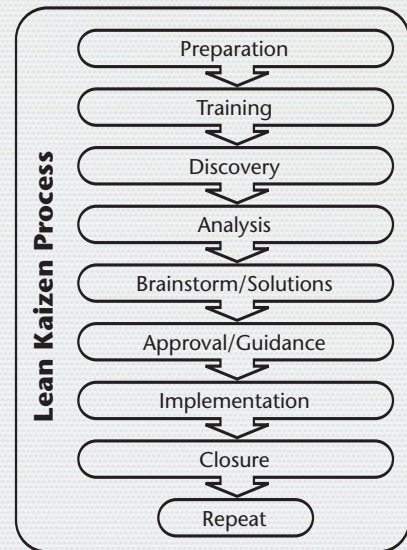
### The journey to Lean Manufacturing is far from over.

The adoption of Lean Manufacturing at UltraSource has had a profound effect on the entire operation. The success in manufacturing has served as an example for what was possible in other areas of our business such as Order Entry, Planning, Engineering, Purchasing, Facilities, and Quality Assurance. Adopting these techniques has given UltraSource a great start, but the nature of Lean is that we are merely at the beginning of a lifelong journey. One that we know will benefit our company and our customers each and every mile of the way.

### Charting a new and exciting course at UltraSource.

- Documented operational procedures are developed to level the workload through the factory and avoid “overburdened” conditions
- Cross-training is executed in manufacturing and inspection to reduce disruptions from vacations and sick time
- Visual communication boards become centerpieces in several traffic areas to promote how expectations are translating into actual performance
- To increase yields and productivity management empowers engineering to identify various problematic processes
- Lean consultant teaches “Kaizen” methods and a team approach to achieving common goals becomes the norm
- Structured accountability meetings become a standard tool for ensuring that Lean processes are being followed and improvement objectives are being met every day

### A Lean path, a better path.



**Learn more about Lean.**

A lot has been written about Lean. Here are some books that delve deeper into this remarkable concept:

**The Toyota Product Development System**

*by James M. Morgan and Jeffrey K. Liker*

**Better Thinking, Better Results**

*by Bob Emiliani, with David Stec, Lawrence Grasso, and James Stodder*

**The Toyota Way Fieldbook**

*by Jeffrey K. Liker and David Meier*

**The Toyota Way**

*by Jeffrey K. Liker*

**Creating A Lean Culture**

*by David Mann*



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