

# Business Process Improvement in the Semiconductor Industry | Case Study

## Implementing Continuous Improvement to the Change Management Process in a Highly Customized Technology Environment

### Client

› A U.S.-based provider of innovative silicon, systems and software with worldwide operations whose 2009 revenues were just over \$2 billion—down nearly 20 percent from 2008. The company is utilizing continuous improvement to enhance revenues, gross margin, operating income and cash flows.

### Challenge

› Manage the engineering change order (ECO) process to deliver products that meet customer requirements accurately and on time. Lead times for releasing and implementing change orders were too long and were creating too many follow-on ECOs to correct errors of previously inaccurate change orders.

### Solution

› The client asked TBM to help them apply lean thinking to minimize and eliminate non-value added activities in business processes of generating, releasing and implementing engineering change notices.

The key improvement priorities were as follows:

- Clearly define roles and responsibilities to eliminate waiting and expedite the flow of change orders
- Simplify process steps and eliminate unnecessary reviews
- Standardize all process steps and use one software system, Agile, to manage ECO workflow

### Results

The lean approach helped drastically improve the engineering change order process to better meet customer requirements on a timely basis. The company made significant improvements by reducing hand-offs between departments, eliminating unnecessary steps and reviews, and reducing loop-backs. They applied lean tools including business process mapping, standard work and 5S. They also applied Six Sigma tools to analyze ECO processing data.

### Results of Lean/Continuous Improvement (CI)

Metric	Before CI	After CI	Change
<b>ECO Creation to Release</b>			
Lead Time (days)	23	6	-74%
Number of Process Steps	85	47	-45%
<b>ECO Release to Implementation</b>			
Lead Time (days)	20	5	-75%
Number of Process Steps	120	78	-35%

**Overall ECO Lead Time Reduced By 40%**

*The company and the names of its executives have been removed at the request of our client who wishes to remain anonymous.*