



## Baxter Planning Case Study: Semiconductor Equipment Manufacturer

Tokyo Electron Limited (TEL) is a Japanese semiconductor production equipment and flat panel display (FPD) production equipment company headquartered in Tokyo, Japan. TEL is best known as a supplier of equipment to fabricate integrated circuits (IC) and FPD. Established in 1963, TEL operates in 77 locations across 17 countries and was most recently ranked on Fortune's "The Future 50" list which ranks the global companies with the best prospects for long-term growth.

### INDUSTRY

Semiconductor

### LOCATION

Headquartered in Japan with presence globally

### CHALLENGE

Achieve consistent planning execution across six regions spanning the US, Europe and Asia

### SOLUTION

Complete four consulting engagements based on recommendations from the Comprehensive Assessment to increase user adoption, improve Prophet configuration and establish automated execution across all regions

### RESULTS

- 95% reduction in forecast alerts
- 22% reduction in min cost while maintaining required service level
- 44% reduction in supply order suggestions
- 60% reduction in Prophet-reported misses to improve accuracy of Hit Rate Report



## Challenge & Solutions

TEL went live with Prophet in May 2017. As a large, global company with planners in six different regions spanning across the US, Europe, and Asia, the company had difficulty achieving consistent planning execution across all teams. With this in mind, the Baxter team completed a Comprehensive Assessment for TEL to identify and prioritize improvement opportunities. Based on the results, the two companies partnered together for a six-month consulting engagement to complete projects in four of Baxter's eight key practice areas:

- **Forecasting:** The TEL team found the large number of Forecast Alerts generated each week to be unmanageable and not truly meaningful as they were typically for very low dollar parts or very low demand items. The Baxter team reviewed the alert configuration and uncovered an opportunity to improve the



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Auto-Outlier Functionality by updating the parameters to trigger more intelligent alerts. After the configuration was updated, training sessions were held to review best practices for analyzing and resolving alerts so that the TEL team walked away with a manageable alert workload and a well-defined maintenance plan for actioning alerts.

- **Inventory Optimization:** Prophet utilizes a Total Cost Model to calculate target stock levels that balance inventory costs with stockout costs and relies on various input parameters to define those costs. Through an iterative process, the Baxter and TEL teams worked to tune parameters and define 5 categories of material criticality. This enabled Prophet to comprehend some materials as more important than others and ultimately, calculate more accurate target stock levels.
- **Supply Order Automation:** The team was able to take advantage of Prophet's Auto-Approval functionality to automate and gain efficiency around placing supply orders. The team's comfort with Auto-Approval began as a pilot of 5-10 materials and has since expanded to a growing list of 500+ materials today and the team is planning to further expand this capability to take full advantage of this feature.
- **Planning Analytics:** After reviewing misses on the Hit Rate report during the Comprehensive Assessment, the Baxter team identified configuration changes that would help improve the accuracy of what Prophet was deeming a hit vs a miss. From here, Baxter conducted regional training sessions to review how to best utilize the Hit Rate report going forward and left each region with a better understanding of the Best Practice for reviewing Hit Rate monthly.

## Results

As a result of the efforts by both teams, user adoption and overall understanding of Prophet has greatly improved. TEL's Prophet users are now more confident utilizing the system to perform planning activities and are willing to trust the recommendations to automate execution. The improvements were reflected on Baxter's Best Practice Scorecard and TEL's benchmark ranking among all customers improved from the 60th percentile to the 84th percentile. This project exemplifies the strong partnership values held by both organizations and the two teams continue meet to monitor status and monthly metrics.

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