



Improving Supply Chain Responsiveness at Altera

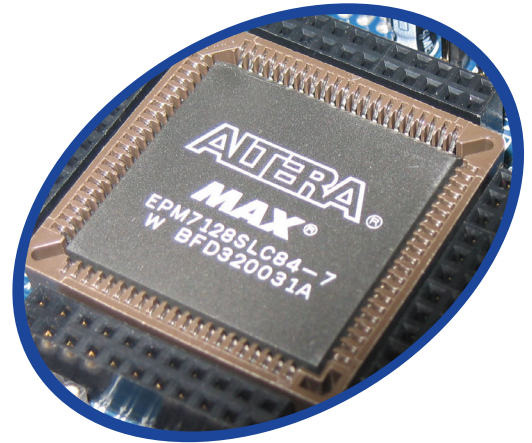
The high tech supply chain is one of the most complex in business today. Its rapid but variable growth, short product lifecycles, and demands for mass customization present challenges to high tech businesses to maintain growth while keeping customer service high and costs down.

Altera Corporation, a leader in innovative custom logic semiconductor solutions, recognized the challenges inherent in its industry. As Altera's reputation in the semiconductor industry grew, so did its business. While management was pleased with Altera's double-digit growth, executives were concerned about the company's supply chain responsiveness.

Executives decided to target improvements in demand and supply planning processes to keep Altera's competitive edge. The fabless semiconductor company had been generating weekly execution plans and monthly long-range forecasts using Excel™ spreadsheets. This manual process was extremely time-intensive, with a monthly forecast taking nearly a month to produce.

"We needed a much faster supply chain response when changes in demand occurred," said Ron Kantorik, Altera's senior manager, demand management. "We needed to be more nimble in sensing, responding, and driving the change through our supply chain quickly with the right product mix."

Ensuring the proper mix is critical to Altera's goal to meet service level commitments and achieve profitability, and the company needed an intelligent system in which it could input its production mix and drive the signal back to its manufacturing partners.



Challenges

- Maintain a competitive edge through targeted reduction in inventory and overall supply chain costs
- Automate manual forecasting process to reduce planning cycle time
- Improve ability to respond quickly to demands and fluctuations of the marketplace

Solutions

- Schedule customer orders based on materials and production availability
- Provide global visibility into value chain for all planners
- Generate long-range capacity and purchasing forecasts

Results

- Reduced weekly planning cycle time from 10 days to 1 day
- Reduced long-term planning cycle time from 3.5 weeks to 1 week
- Decreased inventory

Company Description

Altera Corporation, with \$1.4 billion in annual sales, is a leading supplier of programmable logic devices and associated logic development software tools.

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***— Ron Kantorik
Senior Manager, Demand Management
Altera Corporation***



"It's easy to simply cut orders when business takes a turn downward, but downturns are never completely across the board," Kantorik said. "We have approximately 150 different types of wafers that we build, and sometimes downturns are for older products, and sometimes more mature products do better than newer ones. We needed to be able to tell the factory which product to curtail, and at what levels. Our disconnected technology was preventing us from doing that."

Why i2?

After a thorough evaluation process involving solution testing in various scenarios, Altera's executives chose i2 solutions.

"i2 solutions were the only solutions that were able to meet our requirements," Kantorik said. "And i2's semiconductor template made our implementation much easier. We already had a track record with i2 using i2 Demand Planner,[™] and i2 provided the best demand and supply chain connective solution. We chose to implement i2 Demand Manager[™] and i2 Supply Chain Planner[™], which bolt right into each other."

"i2 solutions have given us the connectivity between demand and supply," Kantorik said. "In times of change, it gives us a cohesive system to address market cycle variations. We can select the proper mix in both upturns and downturns, and we get the information we need in near real time."

i2's Contribution

Altera implemented Supply Chain Planner and Demand Manager using the template developed especially for the semiconductor industry.

Using data from an enterprise resource planning (ERP) system and a work-in-process (WIP) inventory tracking system, the solution generates daily execution plans, guiding off-shore facilities what to assemble and test. i2 solutions also output long-range capacity and purchasing forecasts.

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Altera's Results

With i2 solutions adding velocity to its business processes, Altera has achieved increased customer satisfaction with substantial cost savings.

"We have significantly improved responsiveness to market segments in both downturns and upturns," Kantorik said.

Using its old spreadsheet system, Altera's planners at the wafer fabrication level would not see an unplanned order for up to 10 days. i2 solutions have cut that time down to one day, allowing planners around the world to base their calculations on the same numbers.

"i2 solutions have made the Altera planners' lives easier by enabling them to quickly see supply and demand mismatches," said Winston Ho, Altera's senior programmer analyst. "Every morning, the planners get a list of new orders that have long lead times. They determine if there are any die supply issues and place additional wafer starts to the foundry as needed."

That fast response time enables Altera to have its semiconductors to the market precisely when customers require the product. In addition, the time required to generate the company's long-term forecast has decreased from 3.5 weeks to 1 week because the data is already loaded into i2 solutions. Using Altera's old system, planners spent 70 percent of their time simply gathering data. Now, planners can spend more time analyzing their data and less time gathering it.

"i2 is the heart of our planning and forecasting process at Altera," said David Logan, director of supply chain management at Altera. "i2 continues to provide Altera with an increased ability to quickly identify the impact of demand changes to inventories and availability. Required changes can be made daily, if needed, to adjust builds and communicate order fulfillment issues early to our distributors and end customers. Planners are able to review each level of our manufacturing process from wafer starts to finished goods in order to make timely and accurate decisions affecting production builds."



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