



## Unilever Improves Short-Term Forecast Accuracy

With 400 brands spanning 14 categories of home, personal care and food products, Unilever is one of the world's largest consumer products companies. Its portfolio includes such globally known brands as Lipton, Knorr and Dove as well as a host of trusted local brands.

"Unilever differs from our peers in that we have a large food business and a large personal care business," says Doug Sloan, director of supply chain operations for Unilever U.S. "Our competitors often focus on one or the other, but we mix the two and that leads to slightly different supply chains from a manufacturing point of view. Other than that, our supply chain is fairly traditional."

One aspect that may be traditional for Unilever but that is unusual in today's environment is that Unilever imports very little product from overseas. "We source some through Canada and Mexico and a very little from outside North America, but most of the products we sell in the U.S. are sourced in the U.S.," he says. "Given the shelf life and weight of our typical product, it doesn't make sense to source from somewhere like China," he says.

Being closer to suppliers takes some lead time out of the supply chain, but it doesn't diminish the challenges involved in planning and forecasting demand. A few years ago, Unilever started a multi-faceted program to improve its forecasting capability and accuracy. "Like all companies, we feel we can generate a lot of value through improved forecasting, which impacts the customer-service side, the cost side and the inventory side," Sloan says. "These are all areas that we are looking to improve and the forecast is a key driver for all of them."

One of its key partners in this undertaking is Terra Technology, Norwalk, Conn. Unilever currently is implementing Terra's Demand Sensing solution to improve its tactical or short-term forecast for U.S. operations.

"Forecasts have various horizons but one of our key operational horizons is in that four-to-five week horizon, where we make a lot of supply chain decisions around how we deploy the product to our DC network. We expect Terra to really help us in that time frame," says Sloan.

This tactical horizon is especially important in the CPG sector because of the large number of product trade promotions that companies like Unilever must support. "The promotions are locked in, but forecasts keep getting adjusted," says Sloan. "The beauty of Terra is that it bolts on to the back end of our existing process, so everything we are doing now will stay in place and we will add Terra on top to give us better results."

He explains that Terra's Demand Sensing technology "is literally a mathematical tool that takes all of our inputs – our existing forecast, our historical shipments, customer orders that are coming in every day – and runs these through its pattern-recognition algorithms." Demand Sensing updates these daily forecasts every day as more information becomes available. Because the software responds to what is happening with real-time demand, as well as to historical trends, forecast accuracy improves.

"In theory, pattern recognition is nothing that a good demand planner couldn't do, given an unlimited amount of time," says Sloan. "But in reality, there is so much information, so many products and so many points of distribution that it is physically impossible to have enough people to actually understand the patterns that are occurring. That is what demand sensing technology does."

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It can recognize that a big spike in orders from one customer is just that, a one-time spike, and will not be repeated the next week or the next month. It always falls off." This is not to say that everything is predictable, Sloan stresses, "but it is interesting when you speed the data and get the big picture, how constant some of the behaviors really are."

Sloan notes that Demand Sensing works most effectively when a product has been in the market for a while and has built up sufficient historical data for the software to develop pattern-recognition models. "Terra has told us that we probably won't be using this tool for new products because there is just not enough data to model it," says Sloan. "A product really needs to be in the market for a period of time before you start to see the value. But that is true of most of the products in our portfolio. We have a lot of data available to leverage into the tool."

Unilever expects to reduce its forecast error in the critical zero-to-five-week horizon by 25 percent or more, based on an earlier pilot of the software. "We tested this software in 2006 in one of our personal care categories and got excellent results," says Sloan. "We were not able to implement it then because we were working on some other systems projects, but we knew we wanted to come back to it. The rest of Unilever (outside the U.S.) is waiting for us to implement to see the results before making a decision as to whether we should roll it out across other countries," he says.

Once the solution is running and stabilized in the U.S., Unilever also will consider using point-of-sale data as an input to Demand Sensing, an option offered in the latest version of the Terra solution. "Terra has shown us some data from other customers that are using POS that indicate even further improvements in forecast accuracy are possible," says Sloan. "It's not to the same degree as the initial implementation, but there is still additional value to be had. So let's say we get our 25 percent improvement now; we could start bringing in POS data and get another step improvement. We definitely will look at that."

## About Terra Technology

Terra Technology is the most-trusted provider of innovative supply chain solutions for consumer products companies. Terra's solutions use downstream data like POS to improve supply chain performance, reducing forecast error up to 50% and inventory up to 20%. More accurate forecasts save money, lower inventory, improve customer service and decrease waste. Some of the world's best-known brands and three of the five largest consumer packaged goods companies use Terra, including Procter & Gamble, Unilever, Kraft Foods, ConAgra Foods and Campbell Soup. For more information, please visit [www.terratechnology.com](http://www.terratechnology.com) or call +1 203 847 4007 x111.