



## Business Impact

“To stay competitive and profitable in the face of the global changes impacting recent demand patterns, A&D supply chain organizations must embrace demand-driven value network (DDVN) principles, processes and tools.”

*2010 AMR Supply Chain Top 25 A&D*  
Gartner Research

## Challenges

- Recognition of demand signals.**  
The amount and complexity of demand signal data hinders the ability to respond quickly and accurately while trying to focus on what's really important.
- Manual Process.** Forecasting now is a largely a manual effort, or an automated process whose output is manipulated and adjusted by managers for their own ends, resulting in too much inventory.
- Adjustments.** Continuous improvement requires recapturing adjustments for input; without the capability to compare previous forecasts to the actual, it is difficult to hold those accountable for forecast accuracy.
- Disparate/siloed data.** Demand signals located in different formats in multiple spreadsheets and repositories prevent forecasting data from being centralized and distributed from one source.
- Synchronization.** Supply chain operations are not synchronized, so corporate forecasts don't align with roll-up forecasts from functional units.

## How can we reduce inventory costs while increasing aircraft fleet readiness?

### YOUR GOAL: Provide a single view of the supply chain forecast, and reduce the proliferation of Excel-based forecasts

The global economy has created a challenging environment for all companies, especially A&D. Staying competitive and profitable in these tumultuous times requires lean, highly efficient operations given the severe challenges of delivering new aircraft on time, as well as providing for the sustainment of aircraft in both the commercial and defense sectors.

Key to the profitability of any A&D company is effective management of its large and complex supply chains. It's extremely important to get forecasts right, because they can greatly affect manufacturing and repair efficiencies and aircraft readiness. Traditionally, forecasts have been driven by supply in response to booked demand; recognizing demand signals, which can greatly improve forecasting accuracy, has not been part of the process.

### OUR APPROACH

A&D companies with supply chain forecasting challenges look to SAS to improve forecasting accuracy, improve sales and operations planning, and synchronize multivariate forecasting. We approach the problem by providing software and services to help you:

- Automate and improve forecasting accuracy.** Using large-scale, automated statistical model selection and optimization, improve your statistical forecasting performance through a complete array of advanced forecasting methods to model and forecast all products across a company's product portfolio.
- Rapidly produce forecasts with an improved S&OP forecasting process.** An advanced consensus forecasting planner workbench is supported by advanced analytics for a more structured approach. With an automated forecasting process and workflow, generate a more accurate and unbiased consensus forecast for continuous improvement and strategy alignment across all business units.
- Increase the accuracy of forecasting models.** SAS® populates secure spreadsheets from a central database and provides a workflow engine that populates spreadsheets in a secure environment to capture forecast changes for auditability. Collect data and push it out to stakeholders in an automated workflow and compare previous period forecasts to actual for continuous improvement.
- Gain a comprehensive view of supply chains across the enterprise.** With SAS, you can automatically extract the data, normalize it, correct missing values, search for duplicates, and create a single hierarchical data structure to be synchronized by all of the internal functional units of the enterprise.
- Synchronize and align corporate forecasts to roll up forecasts.** All functional units can easily align with the corporate forecast by working off the same data and synchronizing their own business unit plans. A multivariate forecast with appropriate units/measurements for each functional unit provides the ability to model scenarios and do what-if analysis using micro- and macroeconomic variables.

The end result of automated and improved forecasting accuracy with SAS goes straight to the bottom line with increased margins and profitability.



## THE SAS® DIFFERENCE: Forecast with Confidence from a 35-Year Leader in Demand Forecasting

- **Patented large-scale automatic forecasting.** SAS provides large-scale automatic hierarchical forecasting with complete reconciliation, providing the user with a statistical forecasting engine that automatically creates a business/product hierarchy, automatically assesses every level of the hierarchy to determine the appropriate statistical model based on statistics and business rules, and forecasts each level.
- **Patented model repository.** SAS is the only solution on the market today that offers such a wide range of statistical methods as well as custom developed algorithms to use for forecasting within a hierarchy, and with built-in scalability.
- **Patented event modeling console.** An easy-to-use environment with predefined holidays with pulse, ramp-up/down, level shift and temporary event modeling approaches – or custom events – that statistically measure the impact of sales promotions, marketing events and other activities or allow other simulations.
- **What-if analysis and scenario planning.** Evaluate exceptions to your sales history and plan for future events, including new product, location and channel introduction. Conduct what-if analysis using statistical models to find the optimal forecasting scenario based on available marketing investment strategies.
- **Advanced consensus forecasting planner workbench.** Our fully automated and statistically driven workbench provides weighted consensus forecasting collection, development and viewing ability with gap analysis monitoring, tracking and reporting with alerts.
- **Monitoring, tracking and forecasting of performance metrics.** Measure forecast performance against KPIs through an interactive dashboard with balanced scorecard drill-down/up capabilities that can be viewed and shared to disseminate forecast performance metrics and tracking reports on a companywide basis.

### CASE STUDY: An Aerospace Manufacturer

#### Situation

The finance team was tasked with creating a quarterly, six-year forecast of direct and indirect costs relating to business operations, which required 120 days and 120 FTEs per quarterly forecast and involved the management of 2,500 spreadsheets. The forecast had a high degree of inaccuracy and was prone to errors, and the lead time limited the ability of senior management to make fully informed decisions.

#### Solution

SAS provided a solution that allows the finance team to pull information from SAP and several legacy systems, perform consensus forecasting, do budgeting and planning, and utilize visualization of data, presentation capabilities and executive dashboards.

#### Result

The manufacturer now has a fully integrated forecasting solution that is allowing it to reduce process time to create forecasts from 120 days to 30. This will provide reduced human error in the forecasting process, an increase in forecasting accuracy, and greatly improved situational awareness at senior levels. It is estimated that the first year after the SAS implementation will generate \$10-15 million in ROI.

#### What if you could ...

- More easily recognize demand signals?
- Respond more quickly to fleet readiness conditions or other changes affecting your supply chain?
- Continuously improve your forecasting accuracy?
- Provide a mechanism for continuous improvement and audits?
- Improve your data quality?
- Produce a single forecast that appropriately represents each group's interest?
- Align the supplier and factory capacity to demand?
- Simulate different scenarios to shape demand to align to corporate objectives?

#### You can. SAS gives you THE POWER TO KNOW®

#### SAS FACTS

- The world's top three aviation and space manufacturers are SAS customers.
- SAS is used at more than 55,000 business, government and university sites in 129 countries around the world.
- SAS customers or their affiliates represent 90 of the top 100 companies on the 2011 Fortune Global 500® list.

Learn more about SAS software and services for defense:  
[www.sas.com/defense](http://www.sas.com/defense)



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