IBM Cognos Sales & Operations Planning Blueprint

Introduction

Sales & Operations Planning (S&OP) is an integrated process that allows an organization to combine disparate data sources, review and update unconstrained demand scenarios, compare that demand to supply constraints, and drive to a balanced consensus demand and supply plan. It helps organizations accomplish all these things while also continuously monitoring the financial impacts of scenarios and final plans. S&OP has captured much attention as a result of the globalization of the supply chain and the dual requirements of meeting customer demand and providing optimal operational efficiencies. Traditionally, the marketing, sales, operations and finance groups within an organization have operated in "silos" with different goals, and inconsistent systems which may threaten overall enterprise objectives. But increasingly, companies are recognizing the need for a robust S&OP process that allows the various groups to jointly address operational issues affecting overall corporate goals.

The basic components of an S&OP process include:

- An integrated model that provides internal groups with both visibility and the ability to collaborate
- Quick response and delivery to customers and distributors in order to remain competitive
- Cost- and time-efficient planning for manufacturing and distribution operations
- The ability to plan for new products, so that ever-increasing demand for the "latest and greatest" can be met

The IBM Cognos Sales and Operations Planning Blueprint offers an integrated performance management model that allows companies to effectively plan sales across customers, distributors or distribution centers, and operations across manufacturing plants down to the production-line level. The blueprint ensures that plans align with corporate goals and enables information sharing and more efficient analysis among the various groups.

Overview

The IBM Cognos S&OP Blueprint provides organizations with a 'quick-start' template for success. These models give demand planners the ability to drive to a consensus demand plan, supply chain planners the capability to drive to optimized supply and production plans, and financial planners the ability to immediately review the financial impact of operational decisions.

The blueprint provides:

- **Collaboration:**
  - Alignment of different teams in the organization around a common plan
  - Streamlined reconciliation with company-wide strategic financial plans, managing consistency between top-down and bottom-up plans
  - A visual scorecard to display the status of the planning process, so that appropriate actions can be taken to complete it
  - Alerts so that approved plans are communicated to stakeholders, ensuring they are aware of initiatives that will impact S&OP
  - Integrated operational and financial planning for immediate insight into resource requirements and future consolidated business results for various scenarios
  - Real-time calculations of results, workflow and reporting to enhance collaboration and to manage and consolidate plans.
  - Text annotations further improve collaboration

- **Modeling:**
  - What-if modeling—allows managers to perform multidimensional and multi-scenario analysis to test the impact of different scenarios
  - Methods to identify variances between different versions of the plan
  - Methods to identify production constraints, overcapacity problems, trends, anomalies, and opportunities, and model the effect of drivers against various scenarios
  - Ways to understand the impact of increased or decreased production volumes on inventory, revenue, income statement, cash flow and balance sheet. Custom dating capabilities with no limit on time dimensions
  - Plans by week, period, quarter, or year
  - Scalable architecture with proven deployments

- **Ease of use:**
  - Various systems of record to obtain both projected and historical volumes, as well as financial data needed as a starting point for the planning process
  - Plans at multiple levels (including time, product hierarchy, region, and production facility) with the ability to allocate targets for production, revenue and expenses from across these levels
  - Web- or Excel-based deployment of models for data collection and consolidation with easy version control
  - Drop-down validation lists to ensure data consistency
  - Offline capabilities

Blueprint benefits

The IBM Cognos S&OP Blueprint provides a performance management framework—including planning, metrics, and reporting—that allows the manufacturing organization to plan consensus demand, allocate that demand to plants, suppliers, and production lines, and determine where there may be supply constraints. These operational decisions are also linked to the financial and strategic goals of the organization. The blueprint is designed to reconcile company-wide strategic plans, so that all parts of the organization are planning with a single set of financial goals and business objectives.

The blueprint includes proven practices in model design that greatly reduce investment in implementation time and resources. The blueprint's S&OP process is based on years of IBM experience working with customers and analysts to implement highly effective S&OP processes. Using the predefined data model, customers can focus on applying the technology to solve business problems, rather than dealing with fundamental process analysis and technical design.

Blueprint business benefits include:

- Improved discipline, coordination and communication between cross-functional teams and greater management control
- Increased customer service levels through better planned demand and inventory levels
- Increased plant productivity
- Decreased inventory levels and obsolescence through better demand and supply balancing
- Decreased freight costs through better visibility to demand and optimization of inventory-stocking locations
- Better decisions with decreased time for decision making
- Better financial planning with decreased time to create financial plans
- Future-focused planning and decision making

IBM Cognos S&OP Blueprint process flow

As the S&OP process matures in organizations, it evolves into a supply chain-wide process that reconciles operational plans throughout relevant business operations. An effective S&OP process combines the initial creation of a sales and operations plan with a periodic executive review. The S&OP Blueprint provides models that enable each of these areas, as shown in Figure 1.

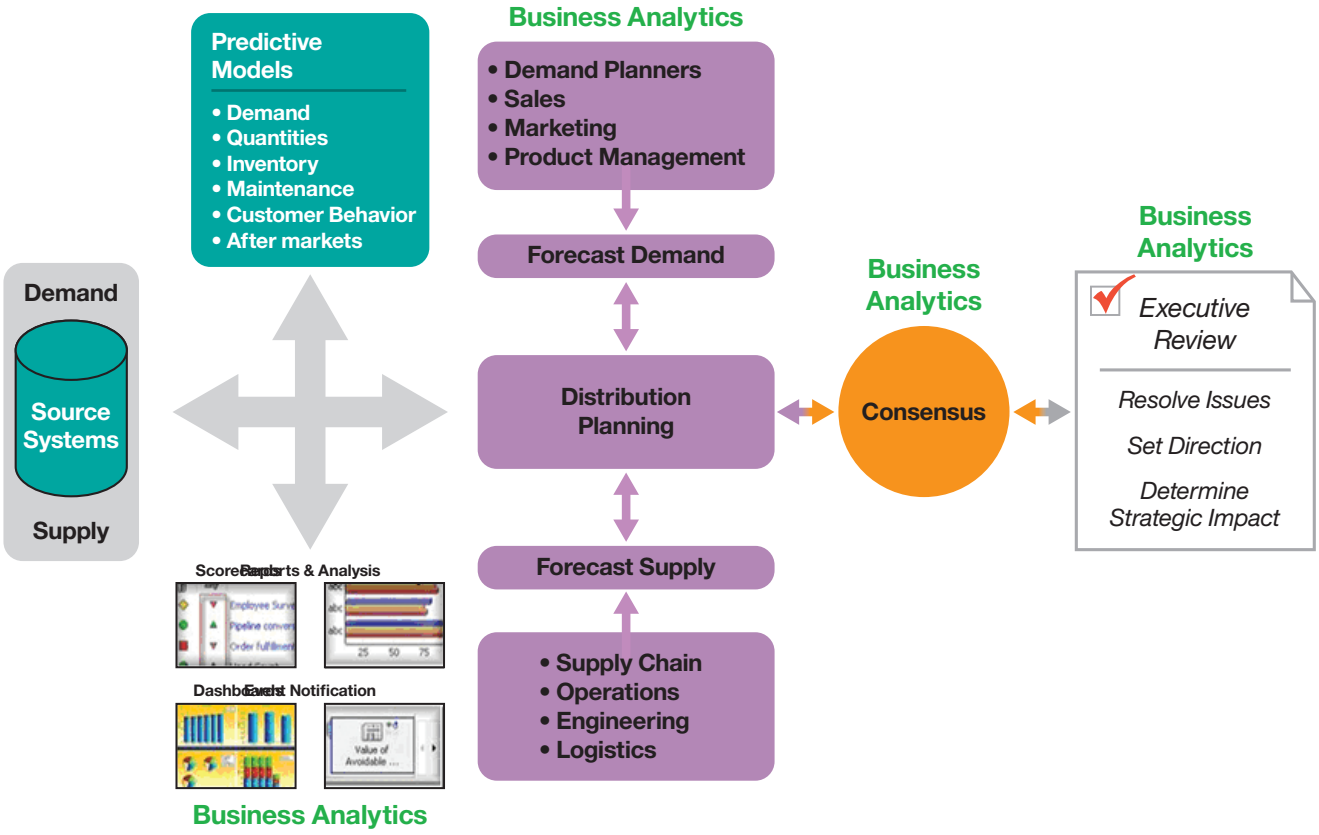


Figure 1

The IBM Cognos S&OP Planning Blueprint in Action

The blueprint delivers value to manufacturers whose plants and production lines are capable of producing single or multiple products. It is realistic to also assume that different production lines are capable of producing the same product and that production allocation decisions are based not only on capacity, but also on other factors, such as geography or plant production costs. The models and processes described in this document are relevant for most manufacturers and can be configured to support alternative model requirements and to accommodate planning in any environment.

The blueprint enables a multistep implementation approach to driving the maturity model of S&OP:

1. Data gathering: Collects actual results; accesses transactions systems; provides clean, robust, meaningful data in a single environment.
2. Demand planning: Enables planning and consensus meetings; provides reconciliation between sales, marketing, promotions and new product introduction. The S&OP Blueprint is complemented by the Demand Planning Blueprint that facilitates detailed product-level demand planning by multiple dimensions such as customer, product hierarchies, distribution location hierarchies and channel by week. The Demand Planning Blueprint deploys product level demand planning to the appropriate level in the organization (salespersons, sales managers, demand planners, marketing planners, manufacturers' representatives and category or product managers) and potentially to customers to plan anticipated demand for a region or selected channel. Planners view a current-year baseline statistical forecast together with the prior year's forecast and actuals by product. They make adjustments to the forecast based on their knowledge of the market. Corporate planners can provide overall pricing and other assumptions to drive the process. Updates to the plan are automatically tracked by workflow. When all planners have submitted their plan, management can use the model to drive to a consensus between different demand, such as statistical baseline, prior-year demand, sales, demand planners or finance. IBM Predictive Analytics can be utilized to calculate and seed baseline versions.
3. Supply Planning: The operations model provides an easily updated, constrained supply plan that includes production allocation logic, critical components material plans, cost plans linked to financial plans, and rough-cut capacity planning at the production line, plant and overall organization level. The model requires very little input from supply managers. Through centrally controlled assumptions, a planner can analyze and determine the production allocated to specific production lines and plants. The production allocation drives the production constraint calculations required to meet the demand. The master planner can perform multiple iterations of this plan to accommodate changing customer demand, best- and worst-case scenarios, and balance production throughout plants. The model also calculates production costs by product and by plant, so manufacturers can base decisions about where to produce on the most efficient model, balancing between operating cost and customer-service levels.
4. Consensus Meeting: Integrates the demand and supply plan and provides a model to drive conflict resolution.
5. Executive Meeting: Aligns corporate goals through executive review, links to integrated financial plans, provides a review process for action items from previous months, reviews consensus meeting output, and analyzes financial, operational and strategic metrics.

The blueprint presents information in many forms, with the capability to view more detailed analyses. It also includes up-to-date information spanning multiple transactional and planning systems and portals and dashboards to drive the decision-making and review process.

Business Scenario for the IBM Sales and Operations Planning Blueprint

The sales and operations planning workflow review (Figure 2) shows an example of the workflow and the ability to track the status of S&OP steps, with owners assigned. In the following example you can see that some of the tasks needed have been completed, but there is still some work to do on the production line-SKU constraint and the production requirements areas.

	Target Date	Due Date	Days Past Due	Owner	% Complete
Total Workflow				**Paul Hoy**	85.3%
Demand				**Mike Wilcox**	100.0%
Materials				**Kathy McPhee**	89.6%
Production				**Leonard Oppenheimer**	84.6%
Production Hours Assumptions	October 14, 2012	October 14, 2012	0	Dan Barrett	100.0%
Production Cost Standard	October 14, 2012	October 14, 2012	0	Dan Barrett	100.0%
Production Line - SKU Constraint	October 18, 2012	October 17, 2012	1	Dan Barrett	60.0%
Distribution Lead Time	October 14, 2012	October 14, 2012	0	Dan Barrett	100.0%
Production Requirements	October 18, 2012	October 17, 2012	1	Dan Barrett	60.0%
Integrated Financial Statements				**Kathy Bremer**	68.6%

Figure 2: S&OP Workflow Review

First, let's make sure we have come to a consensus on demand. The consensus demand forecast review report shows variances of the selected source (1) of demand to the consensus forecast version. This helps to drive to a consensus. In this case, we can see the variances between the demand planner forecast and the consensus forecast but, it looks like we are in good alignment. But all is not perfect…

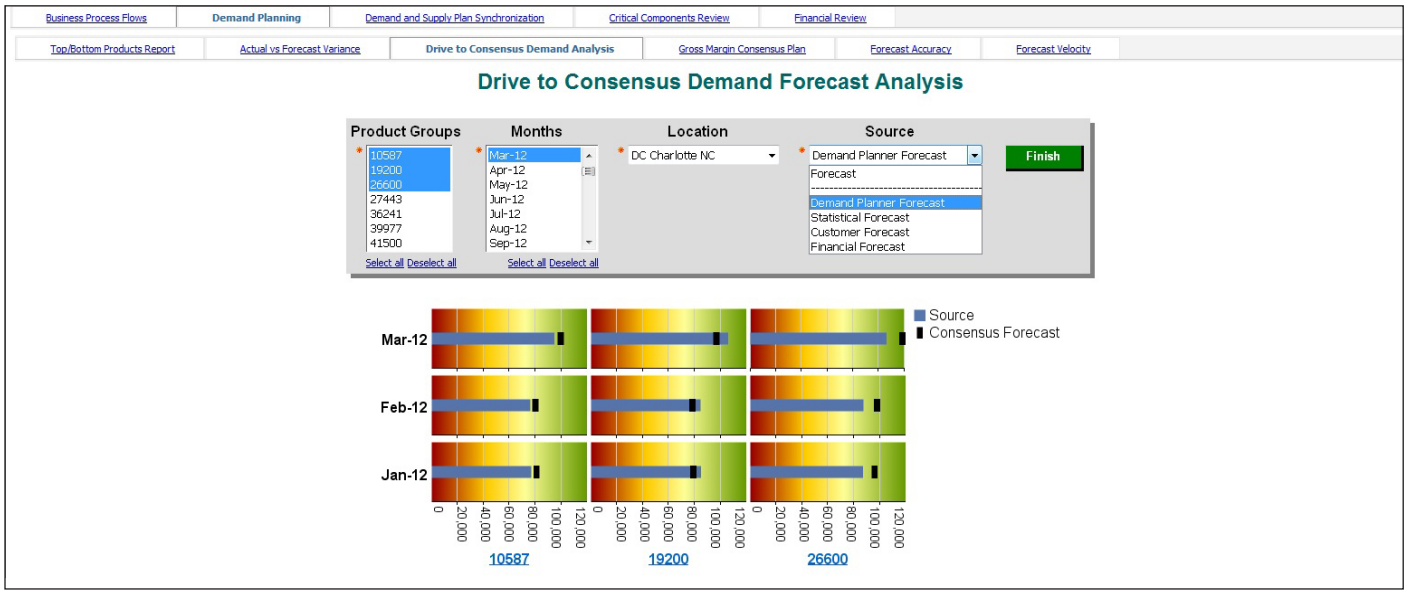
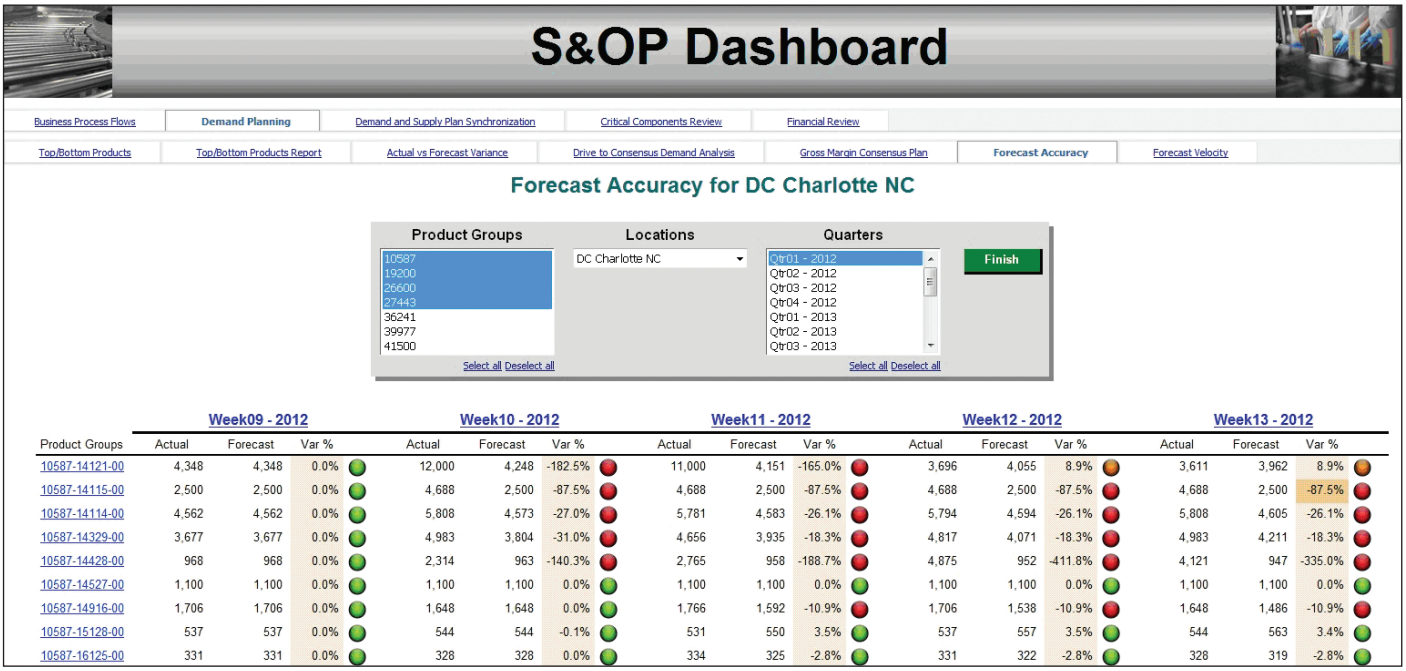


Figure 3: Consensus demand analysis

We have some forecast accuracy problems (indicated by the red alerts) in the Charlotte DC. We can see there are some significant variances between actuals and the consensus plan.

We need to make some adjustments to the plan to account for these variances.



	Week09 - 2012			Week10 - 2012			Week11 - 2012			Week12 - 2012			Week13 - 2012		
Product Groups	Actual	Forecast	Var %	Actual	Forecast	Var %	Actual	Forecast	Var %	Actual	Forecast	Var %	Actual	Forecast	Var %
10587-14121-00	4,348	4,348	0.0%	12,000	4,248	-182.5%	11,000	4,151	-165.0%	3,696	4,055	8.9%	3,611	3,962	8.9%
10587-14115-00	2,500	2,500	0.0%	4,688	2,500	-87.5%	4,688	2,500	-87.5%	4,688	2,500	-87.5%	4,688	2,500	-87.5%
10587-14114-00	4,562	4,562	0.0%	5,808	4,573	-27.0%	5,781	4,583	-26.1%	5,794	4,594	-26.1%	5,808	4,605	-26.1%
10587-14329-00	3,677	3,677	0.0%	4,983	3,804	-31.0%	4,656	3,935	-18.3%	4,817	4,071	-18.3%	4,983	4,211	-18.3%
10587-14428-00	968	968	0.0%	2,314	963	-140.3%	2,765	958	-188.7%	4,875	952	-411.8%	4,121	947	-335.0%
10587-14527-00	1,100	1,100	0.0%	1,100	1,100	0.0%	1,100	1,100	0.0%	1,100	1,100	0.0%	1,100	1,100	0.0%
10587-14916-00	1,706	1,706	0.0%	1,648	1,648	0.0%	1,766	1,592	-10.9%	1,706	1,538	-10.9%	1,648	1,486	-10.9%
10587-15128-00	537	537	0.0%	544	544	-0.1%	531	550	3.5%	537	557	3.5%	544	563	3.4%
10587-16125-00	331	331	0.0%	328	328	0.0%	334	325	-2.8%	331	322	-2.8%	328	319	-2.8%

Figure 4: Forecast Accuracy

Let's go to the consensus demand plan cube to make updates to the plan. We have the ability to slice and dice by products, DCs, versions, sources of demand, time and multiple measures (including units, average selling price, revenue, average cost, and gross margin). We're provided with immediate feedback on our changes in the tabular and chart views.

These views also provide the ability to make changes to different versions for quick what-if analysis. We'll make changes to the forecasted demand and then move through the balance of the model to determine the effects of our changes on supply.

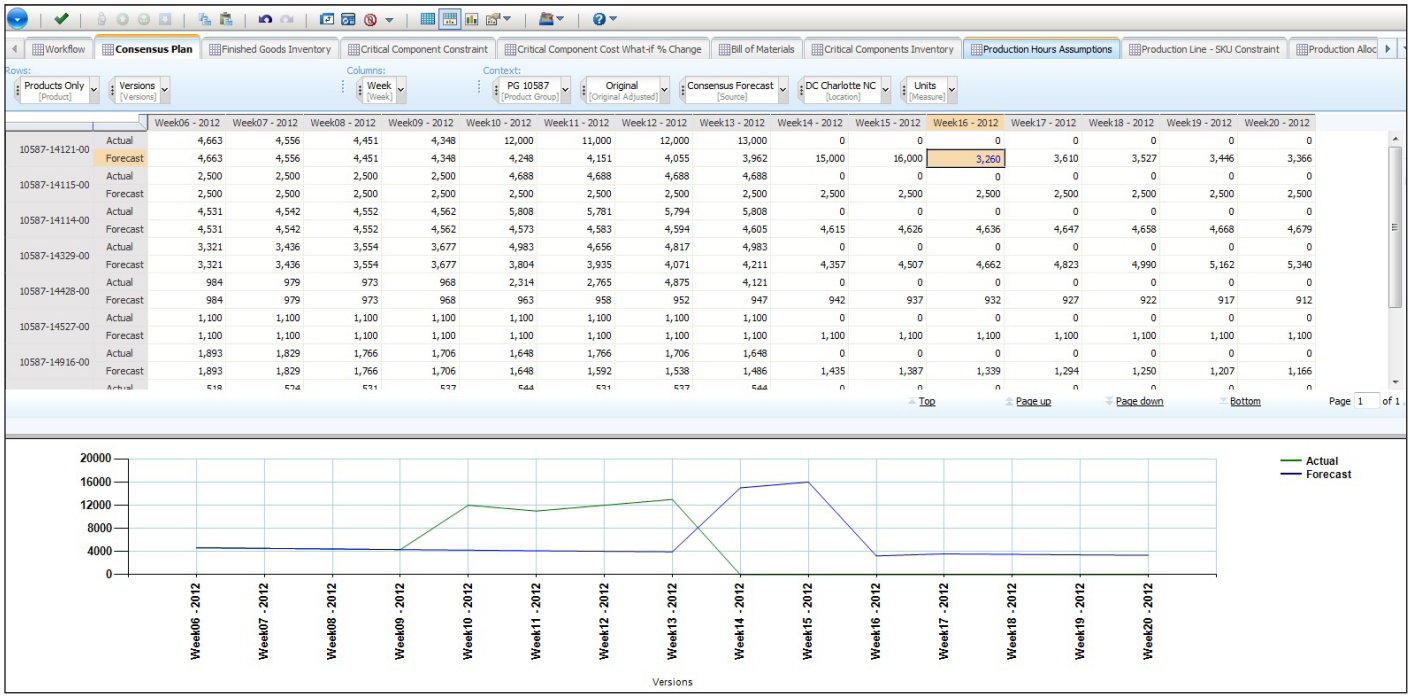
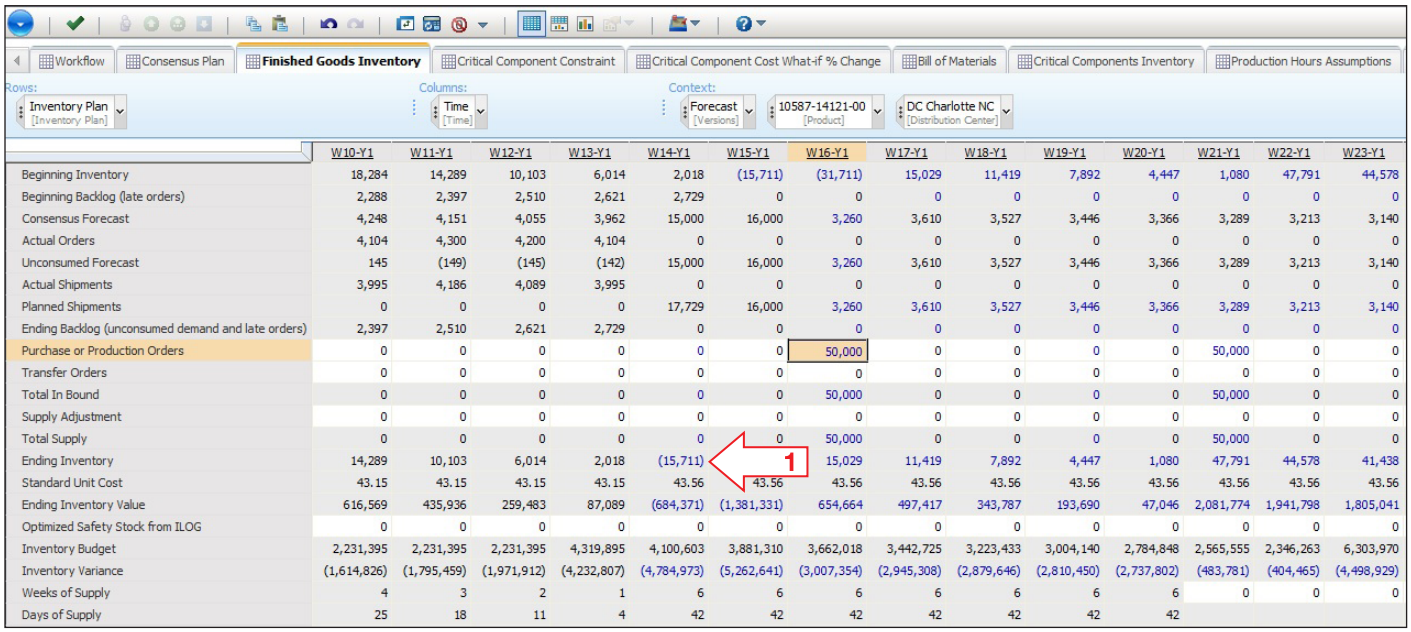


Figure 5: Consensus demand cube

The finished goods inventory cube is immediately updated based on changes to the consensus demand plan. We can see there are some issues with forecasted negative inventory (1).

We'll have to pull production or purchase orders in several weeks in order to alleviate this problem.



	W10-Y1	W11-Y1	W12-Y1	W13-Y1	W14-Y1	W15-Y1	W16-Y1	W17-Y1	W18-Y1	W19-Y1	W20-Y1	W21-Y1	W22-Y1	W23-Y1
Beginning Inventory	18,284	14,289	10,103	6,014	2,018	(15,711)	(31,711)	15,029	11,419	7,892	4,447	1,080	47,791	44,578
Beginning Backlog (late orders)	2,288	2,397	2,510	2,621	2,729	0	0	0	0	0	0	0	0	0
Consensus Forecast	4,248	4,151	4,055	3,962	15,000	16,000	3,260	3,610	3,527	3,446	3,366	3,289	3,213	3,140
Actual Orders	4,104	4,300	4,200	4,104	0	0	0	0	0	0	0	0	0	0
Unconsumed Forecast	145	(149)	(145)	(142)	15,000	16,000	3,260	3,610	3,527	3,446	3,366	3,289	3,213	3,140
Actual Shipments	3,995	4,186	4,089	3,995	0	0	0	0	0	0	0	0	0	0
Planned Shipments	0	0	0	0	17,729	16,000	3,260	3,610	3,527	3,446	3,366	3,289	3,213	3,140
Ending Backlog (unconsumed demand and late orders)	2,397	2,510	2,621	2,729	0	0	0	0	0	0	0	0	0	0
Purchase or Production Orders	0	0	0	0	0	0	50,000	0	0	0	0	50,000	0	0
Transfer Orders	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total In Bound	0	0	0	0	0	0	50,000	0	0	0	0	50,000	0	0
Supply Adjustment	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Supply	0	0	0	0	0	0	50,000	0	0	0	0	50,000	0	0
Ending Inventory	14,289	10,103	6,014	2,018	(15,711)	(31,711)	15,029	11,419	7,892	4,447	1,080	47,791	44,578	41,438
Standard Unit Cost	43.15	43.15	43.15	43.15	43.56	43.56	43.56	43.56	43.56	43.56	43.56	43.56	43.56	43.56
Ending Inventory Value	616,569	435,936	259,483	87,089	(684,371)	(1,381,331)	654,664	497,417	343,787	193,690	47,046	2,081,774	1,941,798	1,805,041
Optimized Safety Stock from ILOG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inventory Budget	2,231,395	2,231,395	2,231,395	4,319,895	4,100,603	3,881,310	3,662,018	3,442,725	3,223,433	3,004,140	2,784,848	2,565,555	2,346,263	6,303,970
Inventory Variance	(1,614,826)	(1,795,459)	(1,971,912)	(4,232,807)	(4,784,973)	(5,262,641)	(3,007,354)	(2,945,308)	(2,879,646)	(2,810,450)	(2,737,802)	(483,781)	(404,465)	(4,498,929)
Weeks of Supply	4	3	2	1	6	6	6	6	6	6	6	0	0	0
Days of Supply	25	18	11	4	42	42	42	42	42	42	42			

Figure 6: Finished goods inventory

Any changes to the tabular views are immediately reflected in the dashboards and reports. In this example, we can view a typical demand and supply synchronization report. Other reports that help us in driving the S&OP process are the negative inventory report, plant utilization, and SKU-production capacity report. We make further changes to balance demand and supply, and then use these reports to check for problems across all business units.

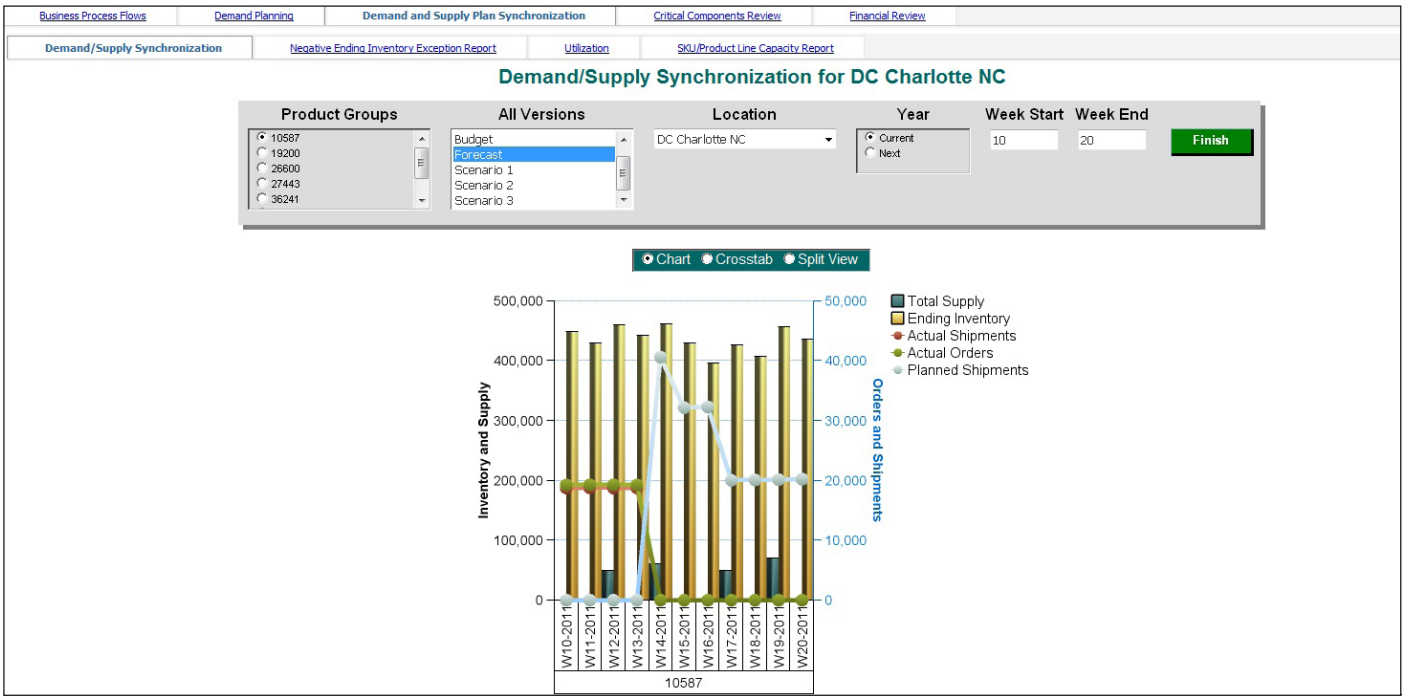
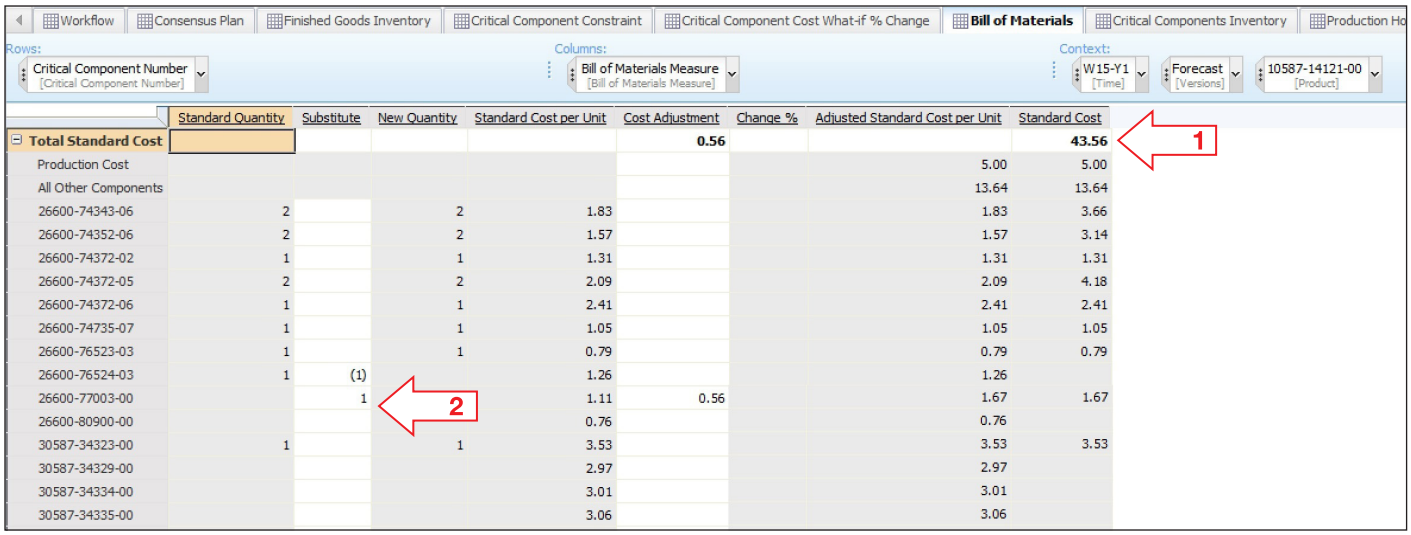


Figure 7: Demand and supply synchronization dashboard

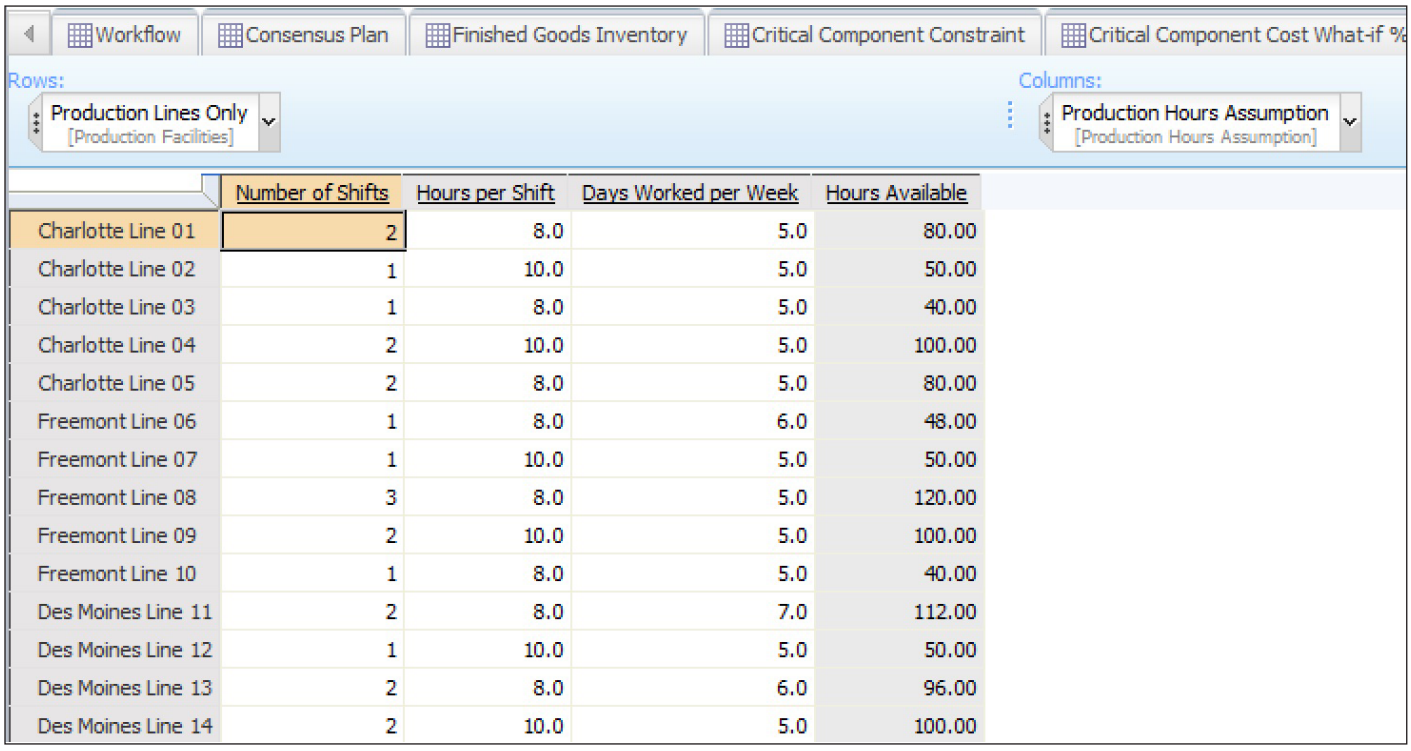
Once we have updated the finished goods, we can see the impact of those changes on critical components, critical components bills of materials, and the critical components inventory. In this example we can see the impact on standard cost (1) of a critical component substitution (2).



	Standard Quantity	Substitute	New Quantity	Standard Cost per Unit	Cost Adjustment	Change %	Adjusted Standard Cost per Unit	Standard Cost
Total Standard Cost					**0.56**			**43.56**
Production Cost							5.00	5.00
All Other Components							13.64	13.64
26600-74343-06	2		2	1.83			1.83	3.66
26600-74352-06	2		2	1.57			1.57	3.14
26600-74372-02	1		1	1.31			1.31	1.31
26600-74372-05	2		2	2.09			2.09	4.18
26600-74372-06	1		1	2.41			2.41	2.41
26600-74735-07	1		1	1.05			1.05	1.05
26600-76523-03	1		1	0.79			0.79	0.79
26600-76524-03	1	(1)		1.26			1.26	
26600-77003-00		1		1.11	0.56		1.67	1.67
26600-80900-00				0.76			0.76	
30587-34323-00	1		1	3.53			3.53	3.53
30587-34329-00				2.97			2.97	
30587-34334-00				3.01			3.01	
30587-34335-00				3.06			3.06	

Figure 8: Critical components

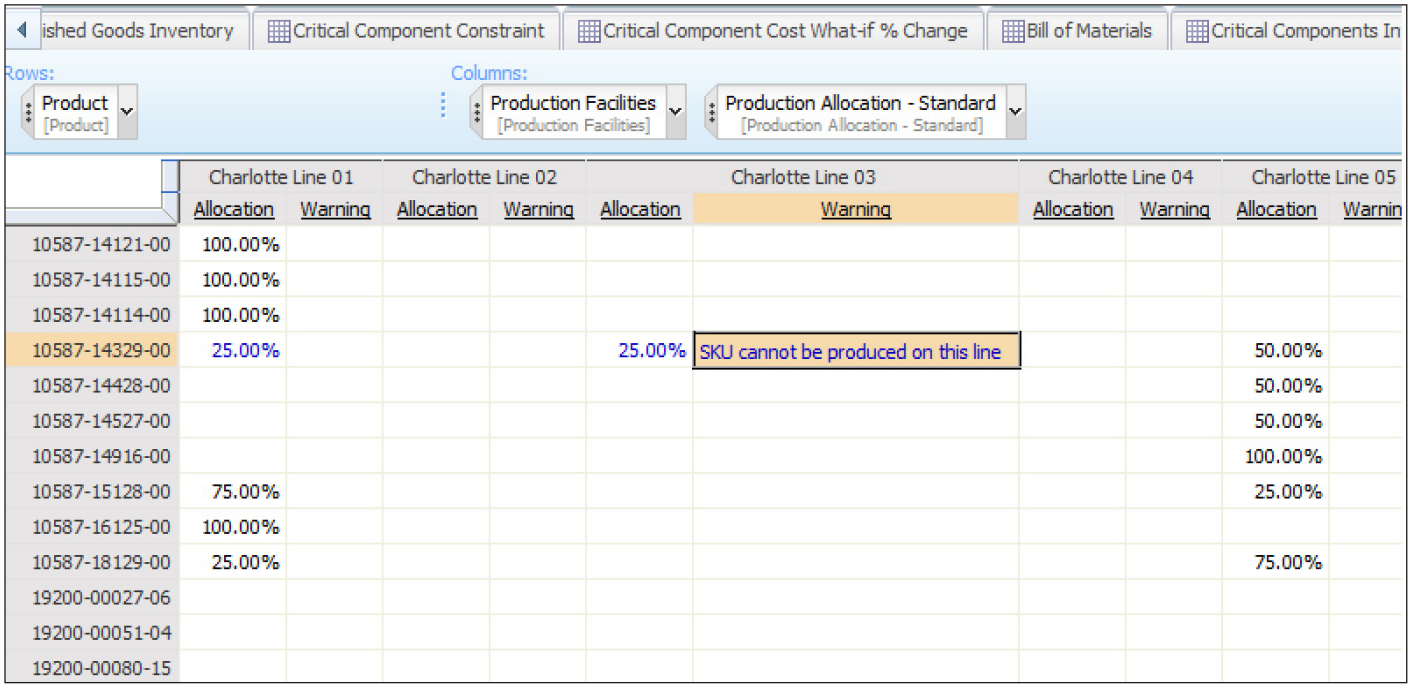
We've worked through the critical components; now let's start checking on our ability to make the products required by the demand plan. These are the production-line assumptions which will drive the overall hours available for production at the line level.



	Number of Shifts	Hours per Shift	Days Worked per Week	Hours Available
Charlotte Line 01	2	8.0	5.0	80.00
Charlotte Line 02	1	10.0	5.0	50.00
Charlotte Line 03	1	8.0	5.0	40.00
Charlotte Line 04	2	10.0	5.0	100.00
Charlotte Line 05	2	8.0	5.0	80.00
Freemont Line 06	1	8.0	6.0	48.00
Freemont Line 07	1	10.0	5.0	50.00
Freemont Line 08	3	8.0	5.0	120.00
Freemont Line 09	2	10.0	5.0	100.00
Freemont Line 10	1	8.0	5.0	40.00
Des Moines Line 11	2	8.0	7.0	112.00
Des Moines Line 12	1	10.0	5.0	50.00
Des Moines Line 13	2	8.0	6.0	96.00
Des Moines Line 14	2	10.0	5.0	100.00

Figure 9: Production line assumptions

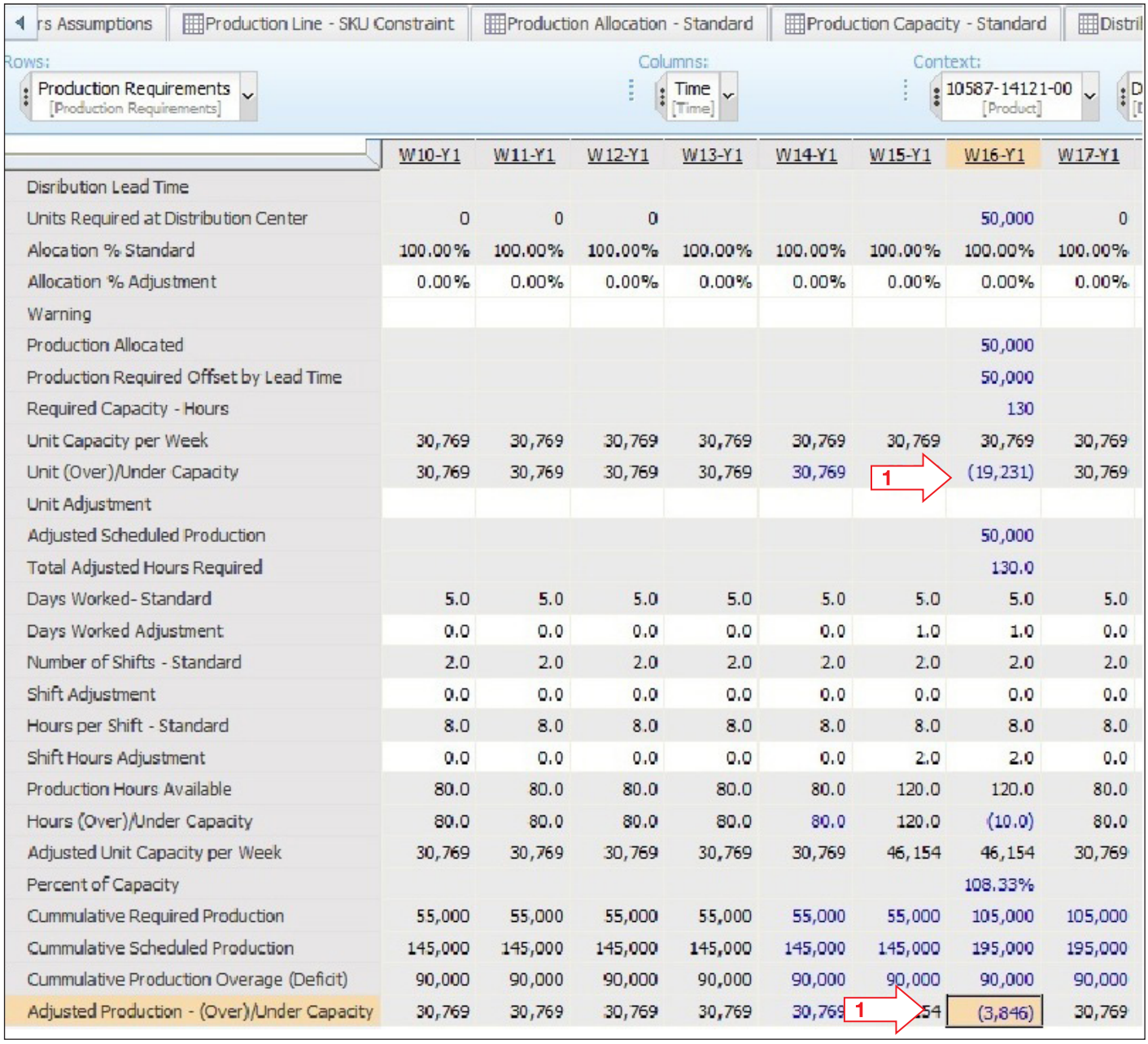
We can now review and update the standard production allocations. We can see the products and production lines in a matrix with the standard allocation of product to each production line. We also see a real-time exception alert where we have allocated production and the "SKU cannot be produced on this line."



	Charlotte Line 01		Charlotte Line 02		Charlotte Line 03		Charlotte Line 04		Charlotte Line 05	
	Allocation	Warning	Allocation	Warning	Allocation	Warning	Allocation	Warning	Allocation	Warnin
10587-14121-00	100.00%									
10587-14115-00	100.00%									
10587-14114-00	100.00%									
10587-14329-00	25.00%				25.00%	SKU cannot be produced on this line			50.00%	
10587-14428-00									50.00%	
10587-14527-00									50.00%	
10587-14916-00									100.00%	
10587-15128-00	75.00%								25.00%	
10587-16125-00	100.00%									
10587-18129-00	25.00%								75.00%	
19200-00027-06										
19200-00051-04										
19200-00080-15										

Figure 10: Standard production allocations

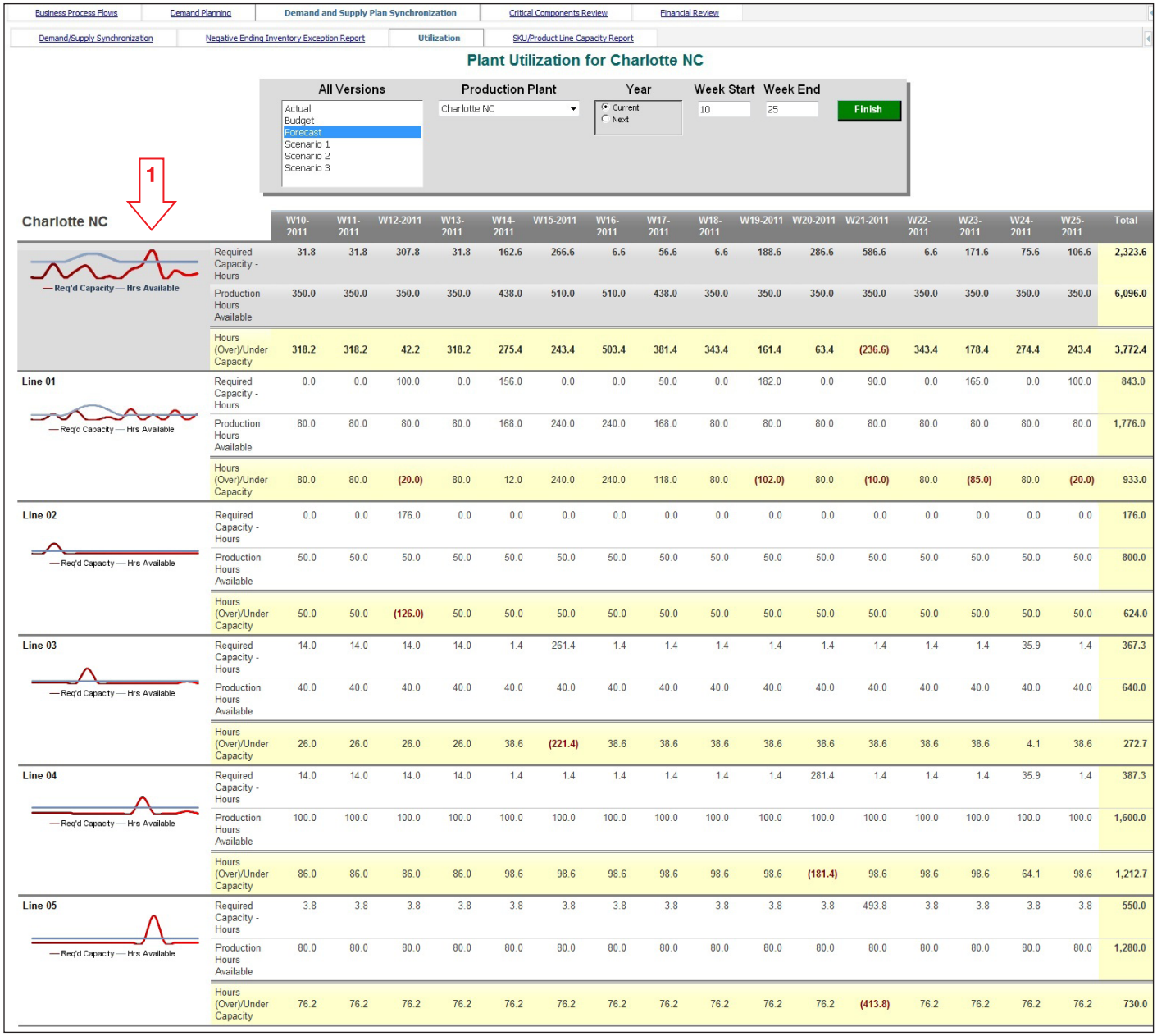
All of the demand, production orders, production allocations and other supply assumptions come together in the production requirements view. We can immediately see we have capacity issues that need to be addressed (1). We also have the ability to make changes to production assumptions such as adjusting scheduled production, number of days, shifts and hours.



	W10-Y1	W11-Y1	W12-Y1	W13-Y1	W14-Y1	W15-Y1	W16-Y1	W17-Y1
Disribution Lead Time								
Units Required at Distribution Center	0	0	0				50,000	0
Alocation % Standard	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Allocation % Adjustment	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Warning								
Production Allocated							50,000	
Production Required Offset by Lead Time							50,000	
Required Capacity - Hours							130	
Unit Capacity per Week	30,769	30,769	30,769	30,769	30,769	30,769	30,769	30,769
Unit (Over)/Under Capacity	30,769	30,769	30,769	30,769	30,769	1	(19,231)	30,769
Unit Adjustment								
Adjusted Scheduled Production							50,000	
Total Adjusted Hours Required							130.0	
Days Worked- Standard	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Days Worked Adjustment	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0
Number of Shifts - Standard	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Shift Adjustment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hours per Shift - Standard	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Shift Hours Adjustment	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0
Production Hours Available	80.0	80.0	80.0	80.0	80.0	120.0	120.0	80.0
Hours (Over)/Under Capacity	80.0	80.0	80.0	80.0	80.0	120.0	(10.0)	80.0
Adjusted Unit Capacity per Week	30,769	30,769	30,769	30,769	30,769	46,154	46,154	30,769
Percent of Capacity							108.33%	
Cummulative Required Production	55,000	55,000	55,000	55,000	55,000	55,000	105,000	105,000
Cummulative Scheduled Production	145,000	145,000	145,000	145,000	145,000	145,000	195,000	195,000
Cummulative Production Overage (Deficit)	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
Adjusted Production - (Over)/Under Capacity	30,769	30,769	30,769	30,769	30,769	1	(3,846)	30,769

Figure 11: Production requirements

After making changes to the production requirements plan, we can review our changes and check for exceptions using some of the dashboards and reports we referred to earlier. In this case, we are using the plant utilization report showing details by production line and week with highlighted exceptions for forecasted over capacity (1).

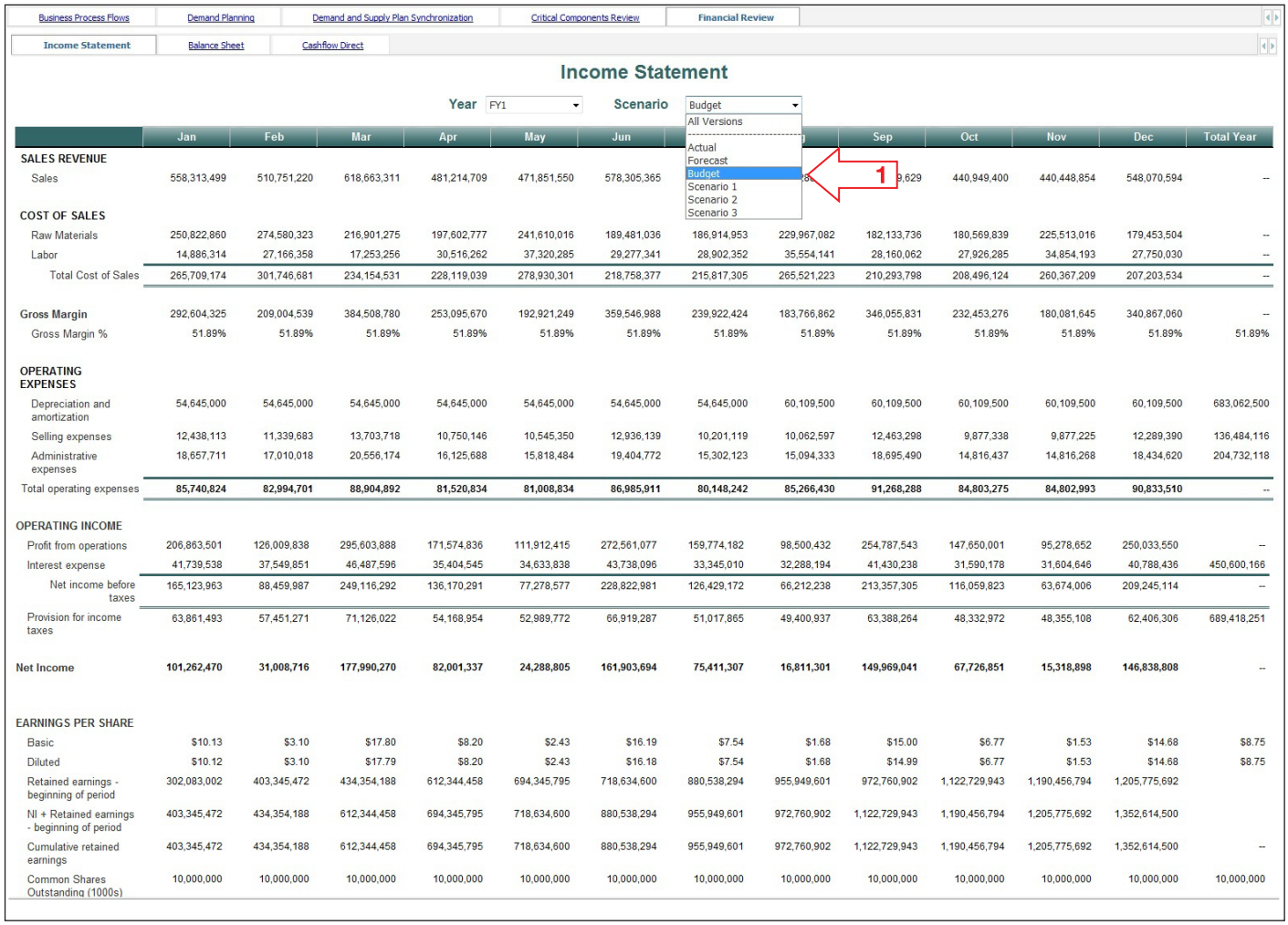


		W10-2011	W11-2011	W12-2011	W13-2011	W14-2011	W15-2011	W16-2011	W17-2011	W18-2011	W19-2011	W20-2011	W21-2011	W22-2011	W23-2011	W24-2011	W25-2011	Total
	Required Capacity - Hours	31.8	31.8	307.8	31.8	162.6	266.6	6.6	56.6	6.6	188.6	286.6	586.6	6.6	171.6	75.6	106.6	2,323.6
	Production Hours Available	350.0	350.0	350.0	350.0	438.0	510.0	510.0	438.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	6,096.0
	Hours (Over)/Under Capacity	318.2	318.2	42.2	318.2	275.4	243.4	503.4	381.4	343.4	161.4	63.4	(236.6)	343.4	178.4	274.4	243.4	3,772.4
Line 01	Required Capacity - Hours	0.0	0.0	100.0	0.0	156.0	0.0	0.0	50.0	0.0	182.0	0.0	90.0	0.0	165.0	0.0	100.0	843.0
	Production Hours Available	80.0	80.0	80.0	80.0	168.0	240.0	240.0	168.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	1,776.0
	Hours (Over)/Under Capacity	80.0	80.0	(20.0)	80.0	12.0	240.0	240.0	118.0	80.0	(102.0)	80.0	(10.0)	80.0	(85.0)	80.0	(20.0)	933.0
Line 02	Required Capacity - Hours	0.0	0.0	176.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	176.0
	Production Hours Available	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	800.0
	Hours (Over)/Under Capacity	50.0	50.0	(126.0)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	624.0
Line 03	Required Capacity - Hours	14.0	14.0	14.0	14.0	1.4	261.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	35.9	1.4	367.3
	Production Hours Available	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	640.0
	Hours (Over)/Under Capacity	26.0	26.0	26.0	26.0	38.6	(221.4)	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6	4.1	38.6	272.7
Line 04	Required Capacity - Hours	14.0	14.0	14.0	14.0	1.4	1.4	1.4	1.4	1.4	1.4	281.4	1.4	1.4	1.4	35.9	1.4	387.3
	Production Hours Available	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	1,600.0
	Hours (Over)/Under Capacity	86.0	86.0	86.0	86.0	98.6	98.6	98.6	98.6	98.6	98.6	(181.4)	98.6	98.6	98.6	64.1	98.6	1,212.7
Line 05	Required Capacity - Hours	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	493.8	3.8	3.8	3.8	3.8	550.0
	Production Hours Available	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	1,280.0
	Hours (Over)/Under Capacity	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2	(413.8)	76.2	76.2	76.2	76.2	730.0

Figure 12: Plant utilization report

All of our changes to demand and supply are linked to an integrated financial plan. In this view, we are reviewing the impact of our operational changes on the income statement.

We can select to view the report from the S&OP dashboard showing multiple scenario versions (1).



Business Process Flows | Demand Planning | Demand and Supply Plan Synchronization | Critical Components Review | Financial Review

Income Statement | Balance Sheet | Cashflow Direct

Income Statement

Year FY1 Scenario Budget

All Versions
Actual
Forecast
Budget
Scenario 1
Scenario 2
Scenario 3

1

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Year
SALES REVENUE													
Sales	558,313,499	510,751,220	618,663,311	481,214,709	471,851,550	578,305,365			9,629	440,949,400	440,448,854	548,070,594	--
COST OF SALES													
Raw Materials	250,822,860	274,580,323	216,901,275	197,602,777	241,610,016	189,481,036	186,914,953	229,967,082	182,133,736	180,569,839	225,513,016	179,453,504	--
Labor	14,886,314	27,166,358	17,253,256	30,516,262	37,320,285	29,277,341	28,902,352	35,554,141	28,160,062	27,926,285	34,854,193	27,750,030	--
Total Cost of Sales	265,709,174	301,746,681	234,154,531	228,119,039	278,930,301	218,758,377	215,817,305	265,521,223	210,293,798	208,496,124	260,367,209	207,203,534	--
Gross Margin	292,604,325	209,004,539	384,508,780	253,095,670	192,921,249	359,546,988	239,922,424	183,766,862	346,055,831	232,453,276	180,081,645	340,867,060	--
Gross Margin %	51.89%	51.89%	51.89%	51.89%	51.89%	51.89%	51.89%	51.89%	51.89%	51.89%	51.89%	51.89%	51.89%
OPERATING EXPENSES													
Depreciation and amortization	54,645,000	54,645,000	54,645,000	54,645,000	54,645,000	54,645,000	54,645,000	60,109,500	60,109,500	60,109,500	60,109,500	60,109,500	683,062,500
Selling expenses	12,438,113	11,339,683	13,703,718	10,750,146	10,545,350	12,936,139	10,201,119	10,062,597	12,463,298	9,877,338	9,877,225	12,289,390	136,484,116
Administrative expenses	18,657,711	17,010,018	20,556,174	16,125,688	15,818,484	19,404,772	15,302,123	15,094,333	18,695,490	14,816,437	14,816,268	18,434,620	204,732,118
Total operating expenses	**85,740,824**	**82,994,701**	**88,904,892**	**81,520,834**	**81,008,834**	**86,985,911**	**80,148,242**	**85,266,430**	**91,268,288**	**84,803,275**	**84,802,993**	**90,833,510**	--
OPERATING INCOME													
Profit from operations	206,863,501	126,009,838	295,603,888	171,574,836	111,912,415	272,561,077	159,774,182	98,500,432	254,787,543	147,650,001	95,278,652	250,033,550	--
Interest expense	41,739,538	37,549,851	46,487,596	35,404,545	34,633,838	43,738,096	33,345,010	32,288,194	41,430,238	31,590,178	31,604,646	40,788,436	450,600,166
Net income before taxes	165,123,963	88,459,987	249,116,292	136,170,291	77,278,577	228,822,981	126,429,172	66,212,238	213,357,305	116,059,823	63,674,006	209,245,114	--
Provision for income taxes	63,861,493	57,451,271	71,126,022	54,168,954	52,989,772	66,919,287	51,017,865	49,400,937	63,388,264	48,332,972	48,355,108	62,406,306	689,418,251
Net Income	**101,262,470**	**31,008,716**	**177,990,270**	**82,001,337**	**24,288,805**	**161,903,694**	**75,411,307**	**16,811,301**	**149,969,041**	**67,726,851**	**15,318,898**	**146,838,808**	--
EARNINGS PER SHARE													
Basic	$10.13	$3.10	$17.80	$8.20	$2.43	$16.19	$7.54	$1.68	$15.00	$6.77	$1.53	$14.68	$8.75
Diluted	$10.12	$3.10	$17.79	$8.20	$2.43	$16.18	$7.54	$1.68	$14.99	$6.77	$1.53	$14.68	$8.75
Retained earnings - beginning of period	302,083,002	403,345,472	434,354,188	612,344,458	694,345,795	718,634,600	880,538,294	955,949,601	972,760,902	1,122,729,943	1,190,456,794	1,205,775,692	
NI + Retained earnings - beginning of period	403,345,472	434,354,188	612,344,458	694,345,795	718,634,600	880,538,294	955,949,601	972,760,902	1,122,729,943	1,190,456,794	1,205,775,692	1,352,614,500	
Cumulative retained earnings	403,345,472	434,354,188	612,344,458	694,345,795	718,634,600	880,538,294	955,949,601	972,760,902	1,122,729,943	1,190,456,794	1,205,775,692	1,352,614,500	--
Common Shares Outstanding (1000s)	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000

Figure 13: Integrated financial plan

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