



**Seven reports every Chemicals and
Petroleum supply chain executive needs**
Supply Chain Performance Management with IBM

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Abstract

This white paper describes the need for effective, efficient performance management software to help drive success in today's complicated chemicals and petroleum industry supply chains. Such systems can give executives real-time visibility into current performance, with a level of detail never before possible. And the best systems—such as those from IBM—wrap all the information into easy to use, easy to understand reports that help executives identify and react to trends as they are happening.

Overview

With increasing requirements for better service, new products, and quicker delivery—combined with fluctuating oil prices—the chemicals and petroleum industry remains one of the most competitive in the world. Everyone across the supply chain must help reduce costs, streamline production and speed delivery in order to help their company compete and remain profitable.

To accomplish this, chemicals and petroleum companies worldwide are turning to Supply Chain Performance Management (SCPM) solutions that can improve efficiencies and streamline processes. And while these systems have achieved success, not all of them are created equal. Only the best SCPM systems give executives the easy, on-demand access to current performance data they need to drive change and improve supply chain operations.

Business problems

Business problems

Chemicals and petroleum companies around the world have invested millions in enterprise and supply chain management systems (e.g. SAP, i2, Manugistics, and others) and various supporting software applications to help them improve the performance of their supply chains, from upstream operations to downstream distribution. This approach has improved efficiencies, centralized data storage and collection and streamlined key processes.

Yet for the volumes of data that they generate, these systems have not delivered what supply chain managers truly need—complete visibility so they can answer the burning questions, and take corrective action across every aspect of the supply chain.

Business drivers

Business drivers

Several critical questions drive business decisions for today's supply chain executives in the chemicals and petroleum industry. These include:

- Which suppliers are the most reliable? Which have balances outstanding?
- How many days of inventory exist in the pipeline or warehouse? Are we meeting demand?
- How close are material forecasts to actual results?
- What lead times are required to fulfill an order?
- Which plants have completed the highest number of work orders on time?
- Which plants are performing best against costs? Has this changed over time?

The solution

IBM Cognos SCPM

IBM Cognos® Supply Chain Performance Management (SCPM) solutions encompass the complete range of capabilities executives need to build and manage a high-performance supply chain:

- Interactive scorecards and dashboards
- Business event management
- Reporting and analysis
- Data integration
- Planning
- Budgeting
- Forecasting

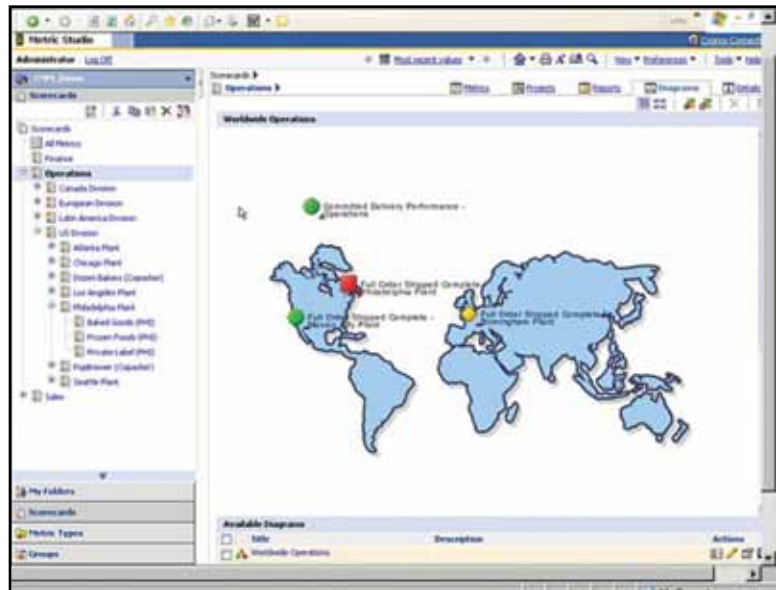
Seven reports every Chemicals and Petroleum supply chain executive needs

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Here are examples of seven IBM Cognos SCPM reports that chemicals and petroleum supply chain executives will find most valuable:

1. Plant Performance Maps

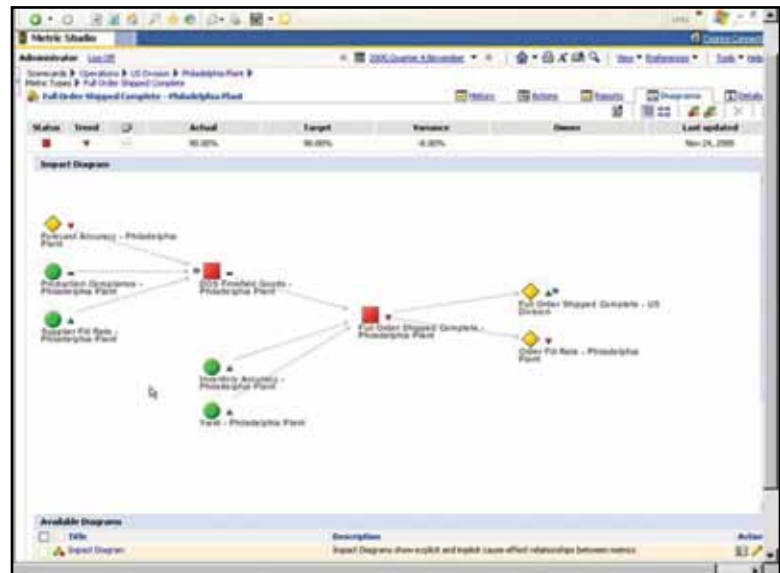
IBM Cognos SCPM solutions provide a graphical, at-a-glance representation of all production facilities and how they are performing. By simply clicking on a location, supply chain professionals are able to detect performance issues and drill-down into each facility.



Plant Performance Maps

2. Plant Performance Dashboard

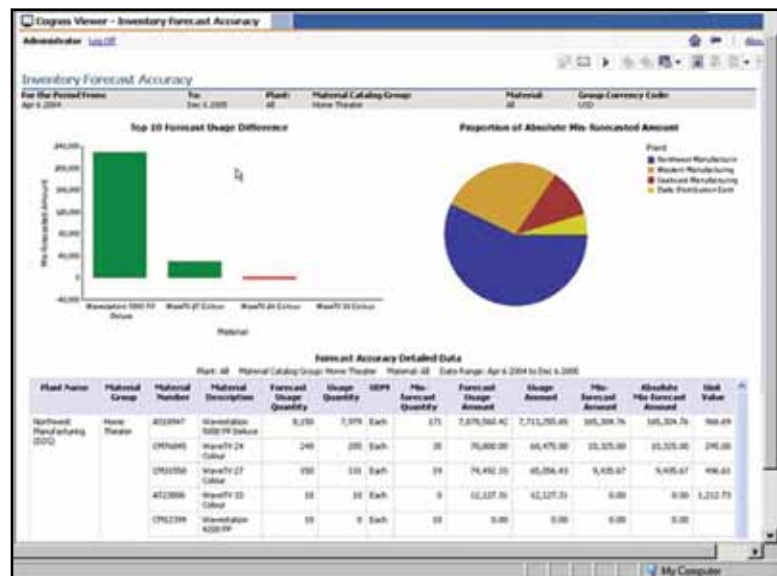
An IBM Cognos digital dashboard can display visual reports of each plant's operations. Users can drill down into the key metrics of each report, such as procurements, material management, production, customer demand and safety, to gain greater insight into overall plant performance.



Plant Performance Dashboard

3. Material Management Report

IBM Cognos SCPM solutions allow supply chain personnel to manage inventory at optimal levels by identifying usage and coverage trends. This visibility helps reduce excessive or unnecessary carrying costs and inventory write-downs, enabling organizations to free up working capital and boost profitability. With IBM, companies can see how trends in the value of inventory compare with inventory turns and days of coverage so they can uncover opportunities and issues in material management.



Material Management Report

4. Production Scheduling Report

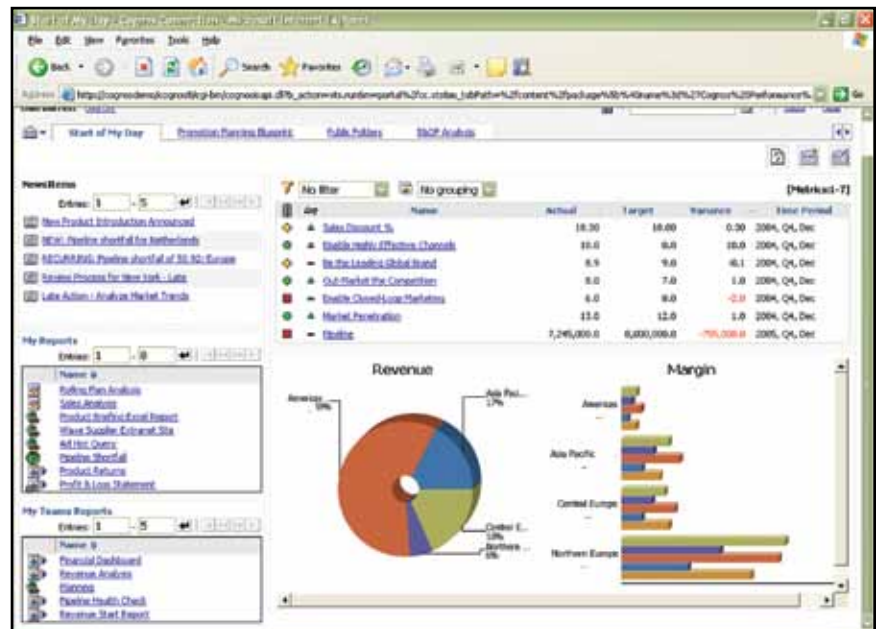
IBM Cognos SCPM solutions enable full visibility of upcoming jobs and priorities by combining information from routings, existing production schedules, and plant capacity. Companies can also factor in downtime, vacation schedules, and preventative maintenance to meet customer demand and commitments, helping the organization run at optimal capacity.

	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07
Labour Constraint					Direct Labour Shortage			Direct Labour Shortage		
Material Constraint					Material Shortage					
Direct Hrs Required	61,871	74,039	47,873	51,884	67,361	36,109	82,414	32,716	55,145	
Direct Hrs Available	68,445	75,264	52,980	61,360	67,704	36,268	84,568	68,764	65,526	
Dis Labour (Over/Under)	6,574.58	656.25	5,087.16	275.55	(257.11)	178.94	2,154.18	(3,301.55)	10,379.46	
Machine Hrs Required	5,982	7,089	4,460	4,940	6,439	3,106	7,809	8,795	5,225	
Machine Hrs Available	4,447	4,075	4,447	4,302	4,447	4,302	4,447	4,447	4,302	
Machine Hrs (Over/Under)	(1,415)	(3,014)	(130)	(539)	(1,992)	(1,800)	(3,362)	(4,348)	(922)	
Total Material Available	1,550,000	1,550,000	1,550,000	1,550,000	1,550,000	1,550,000	1,550,000	1,550,000	1,350,000	
Total Material Required	1,521,000	1,231,200	776,800	843,800	1,121,500	1,586,800	1,360,800	1,530,000	919,000	
Material (Over/Under)	528,992	318,800	773,200	307,000	28,500	(36,800)	190,000	26,000	440,000	

Production Scheduling Report

5. Event Notification

With pro-active event notifications, any user across the chemicals and petroleum organization or value chain can be kept informed of critical events—material part shortages, quantities required, quantities rejected and customer shipments at risk—whether the shipment is in the office or on the road. Early notification of potential disruptions enables corrective action or alternative measures to meet material, production and customer requirements.



Event Notification

6. *Supplier Relationship Scorecard*

Effective suppliers are critical to success. With IBM Cognos SCPM solutions, supply chain professionals in chemicals and petroleum can monitor key performance indicators— such as on-time delivery, quality performance, reliability, and average lead-time—across multiple locations and suppliers. They can analyze current status and trends versus previous periods. They can identify strategic suppliers, optimize their suppliers across materials, and negotiate better terms. The result: reduced cost of goods sold, higher quality of materials and increased reliability of supply.

The screenshot displays a web-based dashboard for 'Supplier On-Time Delivery Performance'. The interface includes a navigation pane on the left with various metrics like 'Open Orders', 'Production Compliance', and 'Supplier On-Time Delivery Performance'. The main area shows a table with columns for 'City', 'Name', 'Actual', 'Target', 'Variance', 'Variance %', and 'Time Period'. The table lists performance data for various plants and divisions across different cities.

City	Name	Actual	Target	Variance	Variance %	Time Period
	Supplier On-Time Delivery Performance - Montreal Plant	92.40%	95.00%	-2.60%	2.74%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Canada Division	96.12%	95.00%	1.12%	1.18%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Toronto Plant	89.22%	95.00%	-5.78%	6.09%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Calgary Plant	100.00%	95.00%	5.00%	5.26%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - US Division	100.00%	95.00%	5.00%	5.26%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Philadelphia Plant	77.26%	95.00%	-17.74%	18.68%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Atlanta Plant	100.00%	95.00%	5.00%	5.26%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Chicago Plant	80.84%	95.00%	-14.16%	14.90%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Seattle Plant	87.13%	95.00%	-7.87%	8.29%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Los Angeles Plant	81.99%	95.00%	-13.01%	14.12%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Latin America Division	100.00%	95.00%	5.00%	5.26%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Mexico City Plant	94.84%	95.00%	-0.16%	0.16%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Rio de Janeiro Plant	96.01%	95.00%	1.01%	1.07%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - European Division	100.00%	95.00%	5.00%	5.26%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Zurich Plant	79.28%	95.00%	-15.72%	16.55%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Bratislava Plant	100.00%	95.00%	5.00%	5.26%	2005, Q4, Nov
	Supplier On-Time Delivery Performance - Prague Plant	88.04%	95.00%	-6.96%	7.33%	2005, Q4, Nov

Supplier Relationship Scorecard

7. Downtime Analysis

By identifying variances in material usage, downtime, labor and overhead by shift, operations and suppliers, organizations can drive maximum productivity across all areas of the enterprise.

Title	Actual	Target	Variance	Variance %	Time Period
Open Orders - Operations	53.74%	50.00%	3.74%	7.47%	2005,Q4,N07
Production Compliance - Operations	100.00%	99.00%	1.00%	1.01%	2005,Q4,N07
Quality Accuracy - Operations	100.00%	100.00%	0.00%	0.00%	2005,Q4,N07
Damage Free Transfers - Operations	100.00%	99.00%	1.00%	1.01%	2005,Q4,N07
Order Fill Rate - Operations	97.00%	100.00%	-3.00%	-3.00%	2005,Q4,N07
% Return - Operations	49.96%	4.00%	45.96%	1,149.50%	2005,Q4,N07
Cash-to-Cash Cycle Time - Operations	34.97	35.00	-0.03	-0.09%	2005,Q4,N07
Consolidated Delivery Performance - Operations	100.00%	99.00%	1.00%	1.01%	2005,Q4,N07
Requested Delivery Performance - Operations	100.00%	99.00%	1.00%	1.01%	2005,Q4,N07
Order Fill Rate - Operations	96.48%	95.00%	1.48%	1.56%	2005,Q4,N07
DOE Planned Downtime - Operations	23.41	15.00	8.41	56.07%	2005,Q4,N07
Forecast Accuracy - Operations	70.70%	90.00%	-19.30%	-21.44%	2005,Q4,N07
Inventory Accuracy - Operations	100.00%	100.00%	0.00%	0.00%	2005,Q4,N07
Inventory Obsolescence as a % of Total Inventory - Operations	0.15%	0.10%	0.05%	53.00%	2005,Q4,N07
Raw Material & WIP Inventory Depth of Supply - Operations	5.43	5.00	0.43	8.60%	2005,Q4,N07
Raw Material Shortage - Operations	1.00%	2.00%	-1.00%	-50.00%	2005,Q4,N07
Unplanned Maintenance Downtime - Operations	9.02%	9.00%	0.02%	0.22%	2005,Q4,N07

Downtime Analysis

Customer success

IBM Cognos SCPM solutions provide chemicals and petroleum companies with rapid deployment and ease of use. Integration with common industry portals and extranets lets customers, partners and suppliers access dashboards, reports, alerts and other important content. IBM also has strong partnerships with the leading ERP and supply chain application vendors including SAP, SSA, QAD, INFOR, Oracle, Manugistics, Kinaxis, Acorn Systems, Smarttime and Agile.

In addition, IBM Cognos Supply Chain Analytics (part of IBM Cognos Performance Applications) deliver hundreds of prebuilt reports, metrics and connections to standard data sources to help you understand your supply chain performance, throughput, quality, productivity inventory, and costs. With the steps for building analytics delivered out-of-the-box, IBM Cognos Supply Chain Analytics brings decision-makers and IT together with a fast solution for maximizing operations.

IBM Cognos SCPM solutions have brought tremendous value to some of the world's largest chemicals and petroleum manufacturers. Our solutions also are used by 86 of the top 100 companies in the Fortune 500.

Conclusion

Conclusion

As chemicals and petroleum manufacturers continue to feel the pressure of increased competition and customer demands, supply chain executives finally have the tool they need to support operational excellence. IBM Cognos SCPM software enables supply chain executives to provide a strategic approach to improving supply chain performance by providing visibility into critical processes, customer needs, inventory requirements, areas for cost reduction, and the reasons behind the results.

About IBM Cognos BI and Performance Management

IBM Cognos business intelligence (BI) and performance management solutions deliver world-leading enterprise planning, consolidation and BI software, support and services to help companies plan, understand and manage financial and operational performance. IBM Cognos solutions bring together technology, analytical applications, best practices, and a broad network of partners to give customers an open, adaptive and complete performance solution. Over 23,000 customers in more than 135 countries around the world choose IBM Cognos solutions.



For more information

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