

SAP Customer Success Story Oil and Gas



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Ahmed Al-Zayyat, General Manager, SAP CC, Saudi Aramco

AT A GLANCE

Summary

As a leading global source of crude oil and gas, Saudi Aramco needed an efficient suite of systems in place across the hydrocarbon supply chain to assure uninterrupted supplies to sustain world economies. Saudi Aramco chose SAP to provide the solution.

Web Site

www.saudiaramco.com

Key Challenges

- Integrate activities in sales and marketing, oil supply planning and scheduling, production and operations, and finance to enable better decision making
- Break down departmental business silos to provide a single, consistent source of information across the hydrocarbon supply chain
- Deliver cross-departmental information to optimize the performance of production, sales, and shipping

Project Objectives

- Improve the effectiveness of major business units – sales and marketing, oil supply planning and scheduling, production and operations, and finance
- Allow Saudi Aramco to respond rapidly to changes in business and market conditions
- Replace 11 systems for individual business functions with an integrated, comprehensive solution suite

Solutions and Services

- SAP® Oil Downstream Management
- SAP Trader’s and Scheduler’s Workbench
- SAP Advanced Planning & Optimization (SAP APO)
- SAP NetWeaver™ Business Intelligence (SAP NetWeaver BI)

Why SAP Solution

- Comprehensive suite of integrated applications
- Tailored for the oil and gas industry
- Global reach to support the world’s largest oil producer
- Easy integration with new technology

Implementation Highlights

- Replaced 11 legacy systems
- Implemented production and planning management across 33 bulk oil and gas plants with a real-time interface

Key Benefits

- Hydrocarbon planning and scheduling handled from a single, integrated system
- Supply and production aligned with market demand
- Paperwork and data duplication eliminated
- Flexibility to respond quickly to dynamic market changes
- Support for upcoming technology for future expansion

Existing Environment

Legacy systems

Database

Oracle

Hardware

Sun Microsystems

Operating System

Solaris

SAUDI ARAMCO

The SAP® for Oil & Gas Solution Portfolio Improves Information Flow and Delivers Optimum Results for the World’s Largest Oil Producer and Its Customers

Oil and gas are two of the most heavily traded commodities in the world, and transporting them is always a critical business action because of their value. A single oil tanker may carry 2 million barrels or more of crude oil worth US\$80 million.

Using massive marine tankers, barges, and pipelines, midstream and primary supply traders and schedulers move huge, bulk quantities of oil and gas every day – crude oil and natural gas from production fields to refineries, and refined products from refineries to storage terminals. Oil shipments can last many weeks and involve hundreds of thousands – even millions – of barrels of oil products.

Saudi Aramco’s operations span the globe. The company is the world leader in crude oil production, with the capacity to produce 10 million barrels a day to satisfy 10% of world demand. Saudi Aramco owns and operates an extensive network of refining and distribution facilities and is also responsible for gas processing and transportation. An array of international subsidiaries and joint ventures, including one of the world’s largest fleets of supertankers, deliver crude oil and refined products to customers worldwide.

For Saudi Aramco, efficient operations go far beyond running a large, successful, and profitable business. The company has a far-reaching impact on the global economy as a whole.



No Single View of the Business

After examining business operations across the hydrocarbon supply chain, Saudi Aramco's management was concerned that the flow of information and the integration of business processes across sales and marketing, oil supply planning and scheduling, production, shipping, and finance was less than ideal.

"Over the years, separate departments involved in hydrocarbon supply chain management had developed their own applications and created islands of information," says Ahmed Al-Zayyat, general manager, SAP CC, Saudi Aramco. "We implemented several SAP applications focused on supply chain management for the oil and gas industry to pull everything together. We deployed SAP software to integrate applications and data across 11 functions. This has made a marked improvement in our operational efficiency and enhanced our optimization and decision making around hydrocarbon production and sales."

Getting oil out of the ground and to customers is a complex process involving production, refining, storage, and transportation. A full suite of information systems is required to handle downstream aspects of a customer transaction from the original contract through sales order processing, supply planning and optimization, scheduling, tanker berthing, and billing to accounts receivables.

A Lack of Integration

Production and export involves four main divisions: sales and marketing, oil supply planning and scheduling, finance and treasury, and production and operations. Within these divisions, separate, isolated systems had been developed for production, forecasting, sales orders and receivables, crude oil tracking, product tracking and scheduling, petroleum analysis and refining information, lay time and demurrage, inspection, international marketing, and natural gas liquids (NGL) and sulphur sales tracking.

There was no flow of information between either the systems or the departments. The company had no single, consistent view of any transaction. Many users had their own legacy systems or developed their own spreadsheet applications, resulting in a great deal of duplication of data entry. Individual departments worked with their own version of the facts, and there was no transparency or accuracy in analyses or reports that crossed departmental boundaries.

Bringing Everything Together

Al-Zayyat and his team set out to integrate processes and information flows across the spectrum of Saudi Aramco's production and export business functions.

"We need a single suite of applications that will integrate all our business processes and allow departments to share consistent information," Al-Zayyat explains. "We chose SAP because its industry solution for oil and gas covers all our business functions within one software environment. SAP for Oil & Gas maps supply chain solutions onto the specific requirements of our industry."

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Initially the SAP suite was introduced to manage production and planning systems across 33 bulk oil and gas plants. To provide a real-time interface between the plants, Saudi Aramco used a terminal automation solution, a key capability of the SAP® Oil Downstream Management application.

Next, other elements of SAP's applications for oil and gas were introduced to replace the 11 legacy systems and to cover all the production and export sales processes throughout the hydrocarbon supply chain. Saudi Aramco is using SAP Oil Downstream Management, SAP Trader's and Scheduler's Workbench, SAP Advanced Planning & Optimization (SAP APO), and SAP NetWeaver™ Business Intelligence (SAP NetWeaver BI) to provide a single integrated system to handle hydrocarbon planning, scheduling, movement and operations, sales billing, and financial accounting.

The new integrated information systems also exchange valuable information with other systems within Saudi Aramco, including global inventory management, worldwide berth scheduling, pipeline batching, and worldwide quota management.

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“SAP for Oil & Gas allows us to manage and execute bulk supply chain activities – from planning through to final settlement – as a seamless, end-to-end process,” explains Al-Zayyat. “It allows us to manage downstream marketing activities, covering tanker allocation, terminal management, berthing, and customer sales. With SAP, we can align supply and production plans with market demand and achieve optimum results that benefit both our business and our customers.”

Streamlined Operations

With SAP software as the backbone of a seamless, end-to-end integrated system for the entire hydrocarbon supply chain, Saudi Aramco is benefiting in many different ways.

“Using SAP applications, we have eliminated paperwork, eradicated duplication of data entry, and replaced the previous silos of information,” says Al-Zayyat. “Everyone now works with the same information, and we have a solid audit trail and full control over the information flow. From one order number, users can track everything connected with that transaction online, right through to final billing and settlement.”

Saudi Aramco now has a reliable single data source for reporting and a sound foundation for understanding all aspects of its business. This gives the company enormous flexibility to respond quickly to dynamic changes in business and market conditions. There are cost savings, too, that result from increased scheduling effectiveness, greater inventory visibility, and more accurate forecasts. In addition, the total cost of ownership is automatically reduced because the company no longer has to maintain and support the 11 disparate and unconnected legacy systems.

“For the future, with SAP solutions we have an open and flexible technology base from which we will be able to quickly and easily support new technologies as they are developed,” concludes Al-Zayyat.

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