The introduction of Honeywell’s advanced planning solution is having a widespread positive impact on PetroChina refinery operations. The company now has the ability to develop production plans that account for all their production capabilities across their various refineries. It has allowed PetroChina to better manage their inventories, raw material supply and distribution of finished products.

Benefits

PetroChina selected Honeywell to help upgrade its business critical systems within the downstream refining business. This involved implementing a state of the art production planning system integrating twelve planning groups from major refining and petrochemical facilities and company headquarters. Honeywell was selected to implement an advanced planning solution using Honeywell’s Refinery and Petrochemical Modeling System (RPMS) to help PetroChina optimize crude oil selection, production distribution and plant production. The project has resulted in the following benefits:

- Successfully boosted core refining technology
- Helped optimize crude oil selection, production distribution and plant production to increase profitability
- Upgraded its business critical systems within the downstream refining business
- Implemented state of the art production planning systems
- Enabled better decision making by integrated information flow between refineries
- Provided information for real-time decision making
- Maximized profitability through development and optimization of effective planning models.

Background

PetroChina Company Limited is one of the largest companies in the People’s Republic of China. It is engaged in a broad range of activities related to petroleum and natural gas, including the exploration, development and production of crude oil and natural gas; the refining, transportation and marketing of crude oil and petroleum products; the production and sale of chemical products; and the transmission, marketing and sale of natural gas. The Company is China’s largest producer of crude oil and natural gas.
Challenges

As part of a corporate-wide IT improvement strategy, which aimed to modernize PetroChina’s operations of up-stream, down-stream, and petrochemical production, the company needed to find a way to bring its core refining capacity up to world class standards. PetroChina needed help in upgrading its business critical systems within the downstream refining business. It also wanted to implement state of the art production planning systems within twelve of the group’s major refining and petrochemical facilities along with a headquarter planning function.

They had to find a way to optimize crude oil selection, production distribution and plant production in order to remain competitive while still increasing profitability. In short they needed an advanced planning solution.

Solution

With a long standing local relationship already in place in China, PetroChina turned to Honeywell for its advanced planning expertise. As part of the solution, Honeywell provided PetroChina with RPMS, an advanced application which helps refiners achieve maximum profitability through effective planning. With RPMS, PetroChina is now able to take into account the factors which impact plant operations. The RPMS modeling system includes advanced modeling capabilities that provide mixed integer programming, innovative property tracking techniques for multi-period models, streamlined recursion property calculation techniques, investment analysis and multiple plant modeling capability.

With RPMS, planners can integrate all of the constraints that affect their operations, using data from a variety of sources, to quickly and accurately develop the optimal solution.

The project was implemented using a pilot-rollout methodology starting with one of the largest PetroChina refineries, Dalian Petrochemical, with 20 million tons per annum capacity. The pilot system went live in 2004 and featured successful configurations of delta-base models for atmospheric and vacuum, catalytic cracking and reformers. With RPMS, the advanced planning solution has been in use successfully by Dalian petrochemical and some other refining and petrochemical facilities.

Because the pilot implementation was so successful, a follow-up contract to roll-out Honeywell’s advanced planning solution to PetroChina’s remaining refineries, petrochemical plants and headquarter locations soon followed.

Honeywell’s technology and commitment to best practice is helping PetroChina achieve its business objectives and improve their ability to better plan production output to meet customer demand.

Honeywell had the local experience and expertise in advanced planning systems to make this project a huge success. Honeywell’s presence in China dates back to 1935. The company has key facilities in major Chinese cities such as Shanghai, KaiPing, and ShenZhen, and continues to expand its local manufacturing and engineering presence.

More Information

For more information on Honeywell’s advanced planning solution including RPMS, please visit our website www.honeywell.com/ps, or contact your Honeywell account manager.

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