

SIMATIC IT in Oil&Gas

Idemitsu creates business value with SIMATIC IT XHQ



The Company

Idemitsu Kosan Co., Ltd (Idemitsu) is a global energy company with various businesses inside and outside Japan. Founded in 1911, today its revenue has grown to JY 3,864,263 Million (USD 37.152 Billion / Euro 23.32 Billion) for the year ending 31st March 2007. The company employs a workforce of 7503.

Idemitsu is one of the major companies in Japan in refining & petrochemical products. The four refineries in Hokkaido, Chiba, Aichi and Tokuyama, and two petrochemical plants in Chiba and Tokuyama are responsible for the production of fuel products (gasoline, kerosene, gas oil, jet fuel), liquefied petroleum gas (LPG), lubricants, basic chemicals, performance chemicals, engineering plastics, and plastic processed products. In addition Idemitsu has interests in exploration and retail businesses.

The Business Challenge

Idemitsu operates in a highly competitive environment. This has always driven the company to reinforce its market position through operations excellence.

In this continuous endeavour to improve the operational efficiency and to distinguish itself by unrivalled product quality, Idemitsu follows two fundamental principles: the innovative use of technology and the empowerment of people.

Since the early 80's, Idemitsu had implemented several IT projects with the objective of providing easy access to information to improve operations efficiency. Over the years they built and maintained a web based system, "Idemitsu Refinery Information System (IRIS)". Over time the system became very complex and difficult to maintain and it proved unable to meet the ever-changing business requirements or exploit new upcoming IT technologies.

After an earthquake severely hit the Hokkaido refinery in 2003, the costly and lengthy recovery process highlighted the growing need of a system to efficiently manage operations and encourage the staff's involvement by giving them insights in the processes at the "right-time" with least effort.

Idemitsu was looking for a solution that would offer real-time (more precisely right-time) information to different roles in the plant, from operators to the plant manager to the top management. The system had to offer visibility on KPIs, and show in right time the underlying details on the status of operations so that people may take corrective action within the opportunity window. In addition, the system had to integrate with the underlying data sources, regardless of their vendor, and most importantly, needed to be scalable to cover the complete enterprise including all plants, functional areas and hierarchies.



The Solution

Rather than picking just the software to cover these requirements, Idemitsu was looking for a solution partner that understood their business and would deliver the solution combined with the necessary engineering, consulting and support services.

These requirements were met in the "Operations Intelligence" solution based on SIMATIC IT XHQ, the joint offering from SIEMENS Singapore and their partner in Japan - JGC Corporation (now JGC Information Systems Ltd, JSYS).

The Hokkaido refinery was the first Idemitsu site to implement the concept in a project that started in June 2006 and was completed in four months, going live in October 2006.

In the complex environment of the refinery, management information is based

on data that need to be collected from multiple IT systems whose data format is often not consistent (because of data format, collection methods/frequencies, time delays, intended audience etc.).

Before SIMATIC IT XHQ it took quite a lot of time and effort and interventions of experts to extract, aggregate and interpret the data into valuable information. By then it was hardly still suitable to support real-time intervention, and often of doubtful accuracy (there were sometimes up to four different figures for the same value).

SIMATIC IT XHQ on the other hand, combines and aggregates data from different sources and actually presents them in a meaningful, contextualized way at the right-time. Every user, from the operator to the CEO has visibility across the depth and width of the refinery according to their access rights.

User acceptance is a major criterion for the success of such a project. This was achieved thanks to the system's user friendliness and minimal training requirements. The system has also helped the users to better relate to each other by sharing information and being able to understand each others situation.

This ability to see and understand what is going on in the next (downstream) or the previous (upstream) process also enables quick & effective communication between supply chain partners (e.g. production and marketing dept.). In fact, the cross-functional view between production, marketing and supply chain operations at Hokkaido refinery contributed to a great improvement of the refinery's operating profit.

SIMATIC IT XHQ gives a clear view on all aspects of operations such as plant utilization, availability of materials, energy consumption, product quality, the supply chain situation, etc., thus enabling effective decisions at every level.

The Result

From Idemitsu's perspective, the implementation of SIMATIC IT XHQ was not about short-term return on investment, but was intended primarily as an enabler for fundamental and sustained operational improvements.

Nevertheless it has not failed to generate measurable and tangible business values even in the short term. As per Suita-san, General Manager of Hokkaido refinery, the Hokkaido refinery has generated an additional profit of JY 800 million in one year, which is directly attributable to the Operations Intelligence solution based on SIMATIC IT XHQ.

Once the benefits and business value of the solution became obvious, the Idemitsu management decided to roll out the solution in rest of the five plants as well as in the head quarters. The complete implementation covering six plants and head-quarters roll-up, is scheduled to be completed in September 2008.

Further, in recognition of the excellent business value generated through the successful implementation of SIMATIC IT XHQ, the Japan Institute of Information Technology (JIIT) awarded Idemitsu with their highest annual award for 2007 (IMTC 2007). +