

Case Study: Oil & Gas

Warehouse automation and integration improves operations

A global oil and gas leader improves operational efficiency and drives growth via end-to-end warehouse automation and integration.

The challenge

One of the world's largest petrochemical producers based in Saudi Arabia was a veteran of digital transformation. The company had implemented many different SAP modules in recent years, but integration between the components was lacking, which meant staff had to consult a number of disconnected systems to get the best data for decision-making. Another major gap: The company's warehouse management system (WMS) had not yet been modernized and was largely based on spreadsheets and manual processes.

The petrochemical company wanted to improve productivity and increase accuracy via an end-to-end WMS automation initiative, along with integrating key SAP components including financials, Human Capital Management (HCM), Application Management Services (AMS), Enterprise Content Management (ECM) and Auto-ID Infrastructure (All).

At a glance

A major Saudi oil and gas company needed to automate its end-to-end warehouse management system with SAP EWM. We helped the company implement core functionality to streamline its warehousing operations.

Outcomes

- Warehouse efficiency increased to 200% after plant automation
- \$5.6 million savings per year as a result of plant automation, with return on investment targeted for three years
- A 30% improvement in operational efficiency
- Improved operational efficiency with up to 99% tracking visibility

We proposed a modern, integrated WMS based on SAP's Extended Warehouse Management (EWM) solution (encompassing SAP EWM integrated with SAP Auto-ID, RFID and SAP Fiori). SAP EWM is a state-of-the-art warehouse management system that tracks and traces product from the conveyor line to the container with 100% visibility, providing all the required functions for an organization's warehousing and distribution operation.

After submitting a proof of concept and demo, the company engaged us for the project. The project's timeline was aggressive—less than a year for development on an initiative that would typically take at least two years.

A complex undertaking

The company's SAP ERP modules lacked integration with other key systems, which hampered executives' ability to make decisions. There was no "single version of the truth"—one place where business users could go to obtain numbers and data they could trust. Without the right integrations in place, the company was missing a significant opportunity to improve the speed and accuracy of its decisions.

The company's massive warehouse operations were manual, which radically increased the time to complete processes and reduce the error rate.

The warehouse function was complex. The company produces petrochemical components and ships them to business customers in Saudi Arabia and other businesses around the world. This meant moving shipping containers multiple times from the company's premises to its clients.

Challenges included:

Poor process synchronization: In its day-to-day operations, 40 to 50 staff members worked with pallets, operated forklifts, handled labelling and performed pick-and-pack operations and other manual tasks. An RFID tagging system supported the stock-location process, but its role was limited due to integration restrictions.

Complex manual processes: The company's systems required excessive manual paperwork, as well as emails and calls to track procure-to-pay and order-to-cash cycles for delivery of products. Business users did not have the visibility required to track products from production to the client's premises.

Dynamic requirements: The initial ERP environment was seven years old. System capabilities had evolved, but did not keep pace with changing user needs. There was no baseline for user requirements, so we needed to create that before work began.

The approach

Cognizant performed a feasibility study to evaluate the solution's suitability and expected business benefits, and outlined implementation challenges and prepared a blueprint for SAP SCM, EWM and RFID implementation.

After our evaluation and successful completion of a proof of concept on the SAP EWM module, the client asked Cognizant to implement the full-fledged solution in two phases.

Phase one focused on installing, configuring, integrating and testing the SAP EWM and RFID systems in three Polymer warehouses. Phase two expands the solution to five additional plants. The goal is to ensure smooth operations at the extended warehouse facility.

Business outcomes

Implementation of phase one of the solution provided a variety of business benefits:

Improved reporting to drive better decisions. Previously, it took three to four weeks to prepare critical reports for business users. That has been reduced down to one week, speeding executives' decision-making capability.

Cost savings of \$150,000 on a one-time basis, with expected savings due to efficiencies of \$5.6 million annually. The project is expected to achieve a ROI within three years.

Greater warehouse operational efficiency.

Warehouse staff has been reduced from 40 to 50 people down to 15 to 25. All inventory is now integrated into the system, so staff members can immediately see what is available to ship.

Integrating the RFID system with the SAP Fiori user interface permits tracking of container movements from yard to port along with real-time reporting. This gives the client 99% visibility into the tracing and tracking of product orders with one consolidated platform. In total, this improved the operational efficiency by 30%.

Reduced general ledger consolidation period.

The company's general ledger consolidation previously took from two to three months. After implementing the SAP finance modules, the business can now close the consolidation within two weeks.

Improvement of the employee benefits system.

Before implementing SAP HCM, benefits such as loans offered, employee paid time off, family yearly travel advances/allowances and visa requests were managed manually. After implementing and integrating the HCM application, users can see their status in real time. This has improved system usage and adoption.

About Cognizant

Cognizant (Nasdaq-100: CTSI) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 185 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us [@Cognizant](https://twitter.com/Cognizant).



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