

Revenues triple in only three months! Prompt support reduces development and start-up time for Gas Authority of India Limited

Rockwell Automation's exclusive Parts Management contract coupled with an embedded engineer continues to save the company upwards of 40% in the cost of inventory.

Background

There's no mistaking the fact that plastics usage is on the rise worldwide, especially in India, where per capita use is about 1.8 kg, compared with a world average of 1.7 kg. The anticipated growth means good things for petrochemical companies responsible for assuring raw material supply.

As a leading manufacturer of high-density polyethylene [HDPE] and low-density polyethylene [LLDPE], used in the manufacture of a variety of plastic products, the Gas Authority of India Limited [GAIL] is in an enviable position to take advantage of growing demand.

To tap into that potential, GAIL committed to constructing a new, more efficient, continuous-process mega plant with the capacity to significantly increase revenues. But significant challenges would lie ahead for this green-field plant, whose construction would involve more than 38 OEMs working simultaneously on discreet subsystems.

Coordination and leveraging intellectual capital was required to see this plant through to successful startup. That's where Rockwell Automation India and the efforts of a dedicated project management engineer delivered.

Challenge

To further enhance its competitive edge,



GAIL wanted to introduce two new production technologies at a new mega plant designed to augment production of its principle products, HDPE and LLDPE. Both are downstream petrochemicals used in the production of various plastic end products.

Market attraction would be augmented by the new plant's location, the first located outside the western part of the country, making it especially convenient for polymer consumers in Northern and Central India.

The plant would become a world-class gas cracker facility with a capacity to produce upwards of 500,000 tons per annum of ethylene, which would translate into 100,000 downstream units of HDPE and 160,000 units of LLDPE/HDPE annually.

But time, as a competitive weapon for

building the facility, was an issue. GAIL executives realized that each passing day without the plant and its new processes in place represented huge losses in potential revenues. Yet, getting the plant built and commissioned correctly the first time was essential, especially for a continuous-process facility. Once started up and in production, even a one-second-process interruption could cost upwards of US\$1 million in lost revenue.

To assure revenues, GAIL required an early startup with trouble-free operations. Exceptional preventive and predictive maintenance systems would also need to be in place and never miss a beat.

Additionally, process documentation would be needed, along with a "zero-breakdown guarantee" from its vendors.

But managing the collective activities of 38 OEMs involved in simultaneous startups of various control systems was nearly impossible for GAIL personnel. In addition, the unavailability of a centralized spares program, problems in documenting field changes, software debugging and application code modifications, coupled to a centralized assurance plan that integrated all programmable logic controllers, all contributed to an emerging sense of chaos.

Without such assurances in place, GAIL risked losing millions of dollars in revenue. They needed an automation solutions coordinator and supplier in one. That's when they called on Rockwell Automation India for help.

Solution

Rockwell Automation India immediately dispatched a dedicated field-support engineer who took full responsibility for coordinating all on-site activities for the 38 OEMs. Armed with the resources of Rockwell Automation's global support network, the engineer would also assure that every resource required, from software consulting, PLC integration and networking would be keenly observed and perform flawlessly. This was a huge undertaking requiring the enormous resources of an industrial automation leader who understood controls, processes and most important of all, the sequencing and timing of startup protocols among all suppliers.

With a considerable amount of the plant's control infrastructure already assigned to Rockwell Automation equipment, including programmable logic controllers, control software and other networking equipment, the next step was to supply GAIL with an exclusive five-year Parts Management Contract. Without this

contract, GAIL would have had to painstakingly go vendor-by-vendor to structure individual agreements at a prohibitive cost and, no doubt, with resulting redundancies, and potential timing delays.

However, the Rockwell Automation Parts Management contract would assure ready, around-the-clock access to all needed spares and supplies required to keep the plant continuously in production. And, again, it was here that the dedicated on-site engineer was instrumental by providing a system-by-system audit designed to identify the needed spares and replacement parts.

Rockwell Automation India also structured an exclusive Software Renewal Contract, in addition to developing a customized Sequence-of-Events system for recording the project's complete history. The dedicated Rockwell Automation engineer would also provide on-site personalized training on all system controls for GAIL's facility engineers.

Results

From GAIL's perspective, in the truest sense of the word, Rockwell Automation India worked together with them as a

partner, not just a supplier—and to an outcome measured by substantial savings and increased profitability—without system downtime.

In fact, thanks to the excellent on-site engineering support, the new plant achieved successful startup considerably ahead of schedule, with subsequent plant capacity utilization running at 100% out-of-the-gate.

Profitability literally skyrocketed for the GAIL Group, whose revenues rose from US\$6 million, to US\$18 million—a 200% increase—all within the first three months of the plant's commissioning.

Also, prompt engineering support and replacement to several non-Rockwell Automation branded equipment from other suppliers, alone saved more than US\$500,000 in lost production. That equipment was replaced exclusively with Rockwell Automation brands. All of these results met GAIL's "zero breakdown guarantee" requirement. And Rockwell Automation's exclusive Parts Management Contract continues to save the company upwards of 40%



in the cost of inventory, since the parts are leased directly from Rockwell, rather than being carried on GAIL's books.

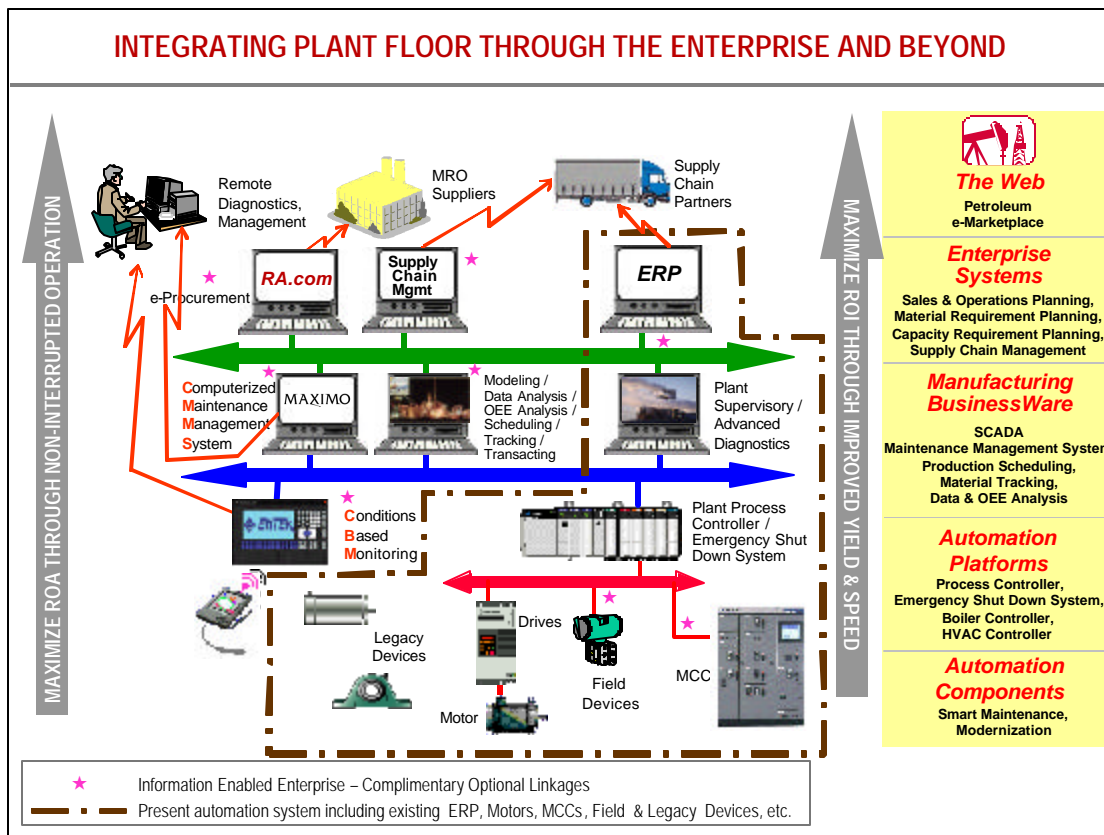
Other benefits include a plant operational efficiency record that is considered one of the best in the industry, with finished products meeting all international standards for quality. But perhaps most importantly, Rockwell Automation India's dedicated support helped GAIL leverage time and intellectual capital as a

competitive weapon—which resulted in a plant that was immediately profitable.

In a letter of appreciation, GAIL's chief executive wrote, "It is a matter of pride for the company to work with a global company like Rockwell Automation India. They have an excellent service network and a professional approach to customer satisfaction that meets the needs of our times. Within my experience in the field they are one of

the best companies in the world."

The architecture below depicts Rockwell Automation's concept of an Information Enabled Enterprise. The area outlined with a brown dash line represents the present automation level in the facility under discussion in this document. The remaining portion illustrates a host of solutions that Rockwell Automation can provide today to integrate the plant floor to the enterprise and beyond.



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