

Case Study

India Cements Improves Productivity with Honeywell's MasterLogic PLC



Benefits

Today's cement industry is characterized by fluctuating demand, intense global competition, rising energy costs, emissions restrictions and more stringent safety requirements. From the quarry to the kiln, and from the cooler to load-out, automation technology is vital for maximum productivity. Ensuring effective measurement and control at each stage of the production process increases availability, reduces waste, saves time and increases output.

India Cements Ltd (ICL). automated its Malkapur, India, cement plant with Honeywell's MasterLogic PLC and Experion solution.

With automation using Honeywell technology, India Cements Ltd was able to meet its four primary productivity goals of downtime reduction, reduction of energy consumption, product quality improvement and intelligent use of maintenance resources.

Background

India Cements Ltd. was established in 1946, and its first plant was built at Sankarnagar in Tamilnadu in 1949. Since then, the company has grown to include seven plants spread over Tamilnadu and Andhra Pradesh. ICL now ranks as the largest producer of cement in South India with a total production capacity of approximately 14.05 million tons per annum.

India Cements' Coromandel King, Sankar Sakthi and Raasi Gold provide high-strength concrete to the quality-conscious consumer.



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Challenge

At its Malkapur, India, production facility, ICL had commissioned a 1.2 MT cement plant (Line-I) in 1998 employing Honeywell SCAN3000 and LCS620 controllers. The company began construction of another 1.2 MT cement line (Line-II) at the same location in 2008, and chose to once again implement a Honeywell automation solution. ICL wanted a similar control configuration as Line-I on its second production line. However, the LCS620 controllers and SCAN3000 hardware had become obsolete by the start of the Line-II project.

Downtime is a significant problem at obsolete plants. The need to lower operating costs, reduce energy consumption and improve product quality represents a considerable opportunity for cement plant owners - requiring the best available process control solution.

Solution

ICL opted for Honeywell's new MasterLogic 200R programmable logic controller (PLC), paired with the proven Experion Process Knowledge System (PKS), to meet the automation requirements at the Malkapur plant.

By improving the level of automation within the process, operators are now alerted more quickly to deviations in process parameters and able to take action before situations become critical. In addition, the enhanced monitoring and control capability helps to reduce energy consumption and emissions levels. Along with good quality raw materials, the accurate data regarding process variables, especially during calcining processes within the kiln, ensures that the output are of the best possible quality.

The automation reduces the amount of time needed to maintain the plant; and ensuring optimum maintenance cycles helps ICL reap additional cost savings.

The MasterLogic PLC is a small and compact controller that installs conveniently into a confined space, and delivers power and performance for a wide range of control applications. It is designed to bring power, robustness and reliability to very high-speed logic, interlock and sequencing applications typically found in cement plants. This compact, modular PLC offers all of the redundancy architecture options needed for most industrial operations at a cost that belies its benefits. Its advanced technology brings higher speed processing and better control.

For More Information

Learn more about Honeywell's products and services visit our website www.honeywellprocess.com or contact your Honeywell account manager.

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Honeywell MasterLogic PLC

The PLC can either be stand-alone or distributed with peer-to-peer connections. Its CPUs, power supplies and rack sizes are available in various models to best fit a particular application. Where applicable, a MasterLogic PLC can be networked with an Experion supervisory computer.

"The use of IEC 61131-3 set of languages in MLPLC makes it instantly familiar to our new generation of control engineers, who are not familiar with ladder logic. And system designers like the flexibility to mix and match different programming languages in a single CPU with modular programs. So this Honeywell offering was well received by our technical experts", said an India Cement official.

Based on the success of the Line-II automation project, ICL plans to upgrade the legacy LCS620 PLCs to MasterLogic 200R in various areas and SCAN3000 installation to Experion on its entire Line-I at the Malkapur facility.