

# ERP for increased cement industry efficiency

Enterprise resource planning (ERP) brings together the myriad of data flows in a cement company, enabling staff to make informed decisions on how to manage operations. This article provides an overview of the benefits to be gained.

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ERP systems connect the large amount of data in cement plants with the staff in the different departments so they can make informed decisions and optimise operations



With the cement sector expected to show a CAGR of 5.4 per cent in the next five years, the industry is forecast to supply a US\$498.23bn market by 2028. However, significant socio-political, macro-economic and operational challenges exist: the Russia-Ukraine conflict, unstable inflation, rising fuel prices and a stringent regulatory environment, to name a few. Cement producers who can navigate these challenges have a chance to tap into the huge opportunity the cement market

offers. To meet these challenges, a robust enterprise resource planning (ERP) solution could equip manufacturers by offering tangible and timely insights into their operations, enabling them to make swift strategic and tactical adjustments.

## **ERP: the unified backbone**

Streamlining intricate operations and gaining real-time visibility is the foremost priority of all producers. Each cement company has different touchpoints, each

with its data silos. Often the root cause lies in the disconnect between systems used for corporate decision-making and those for running the workshop floor. The disconnect is because cement companies have too many applications, and there are gaps as the existing solutions are broad-based and not custom-built to requirements. Therefore, the solution lies in creating a unified data backbone to have accurate and reliable enterprise data.

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Be it quarrying, raw material procurement, production, inventory management, quality control, or distribution, a cement ERP system can easily filter, condense and transmit data from various departments or functions to business unit heads in real time, enabling them to make informed choices. It also plays a pivotal role in seamlessly integrating the cement value chain from own operations to that of suppliers and distributors.

Cement ERP systems should be chosen based on comprehensive due diligence of application landscape, whitespaces and clearly defined objectives. While there are a varied range of ERP providers in the market, only a select few offer a platform purpose-built for the cement industry. An ideal platform should have cement-specific business processes to run kilns and mills, pre-defined custom KPIs and dashboards with industry benchmarks and interfaces for dealers and suppliers.

### **Benefits of a smart ERP solution**

An ERP system can bring digital transformation in the cement industry in many ways, including:

- **Streamlining operations**

An ERP system streamlines and automates all business processes. It helps a cement company with multiple plants coordinate production, manage raw materials and optimise inventory levels. Across the value chain, the system assists in forecasting demand, performing production planning, generating material requirement plans (MRPs) and master production

schedules (MPSs), setting planning policies, manufacturing execution and distribution.

- **Improved supply chain management**

Having robust supply chain management is crucial for the cement industry. Key supply chain activities addressed in an ideal cement ERP are: raw material procurement, inventory planning, vendor management, order processing and dealer management. These activities need to be in complete synchronisation to ensure the right type of cement is delivered to the right client at the right time. An ideal solution offers comprehensive visibility from raw material procurement to cement distribution.

- **Quality control and compliance**

Manufacturers receive quality control modules with an ERP system that allows them to monitor and track product quality, deviations in quality, etc. For example, if a batch of cement fails quality tests, the system automatically flags it and recalibrates the blending proportion of raw materials. An ideal system should be connected in real time with laboratory and on-field analytical instruments to track quality and take requisite actions to save time, material and effort.

- **Inventory management**

Effective management of raw materials is essential to maintain the balance between throughput and carrying cost. ERP software tracks inventory levels of raw materials, such as limestone and sand, in real time. When materials reach a predefined threshold, it triggers purchase orders to suppliers, ensuring a consistent supply of materials and preventing stock-outs.

- **Real-time data and analytics**

Manufacturers get to monitor key performance indicators (KPIs), such as raw material and energy consumption, production output and labour productivity through ERP dashboards.

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This visibility enables quick decision-making, such as adjusting production schedules or reallocating resources.

- **Cost optimisation**

An ERP system centralises kiln operation cost data, facilitating accurate costing, efficient resource allocation, cost variances and identification of cost-saving opportunities. In addition, it offers effective pricing methods and discounts, cementing healthy customer relationships and promoting overall business growth.

- **Integrated financial management**

An ERP system integrates financial data with other business processes and provides real-time visibility into the company's financial performance. For instance, when raw materials are purchased, the system records the transaction and updates the inventory and accounts payable in real time. Based on accurate data, the system generates monthly financial reports, summarising sales revenue, production costs, and other financial indicators. These reports are used by leadership teams for strategic analysis and informed decision-making by investors.

### **Conclusion**

In the ever-evolving cement business environment, industry-specific ERP solutions that contribute significantly to the cement industry have become a necessity to thrive. Leveraging such ERP systems, cement manufacturers can address unique industry challenges, while boosting productivity and reducing costs. They also enable producers to efficiently manage cement plant operations, achieve sustainable growth, improve customer satisfaction, and move ahead of their competitors. ■