

The impact of telematics in the cement industry



The cement industry has often been categorized as laggards when it comes to the adoption of digital technologies. But the benefits of digital technology, including revenue and other margin-impacting factors, are compelling the cement industry to consider harnessing the power of digital technology, more seriously.

It's better late than never!

For those cement and manufacturing companies that are contemplating undertaking the digital transformation journey, it is recommended that they experiment in a gradual, step-by-step manner. This would enable these organizations to achieve a better grip on their operations. It would also allow these companies to build up their resources for tackling the initiative in a better and more quantifiable way. We recently helped a Indian Multinational Company - based in Mumbai. One of the largest manufacturer

of grey cement, ready mix concrete (RMC) and white cement in India with an installed capacity of 116.75 million tonnes per annum, and is the only company in the world to have a capacity of over 100 million tonnes in a single country, outside of China. Our client has 23 integrated plants, 1 clinkerisation plant, 26 grinding units and 7 bulk terminals. Its operations span across India, UAE, Bahrain and Sri Lanka.



What have MachineMax done? :

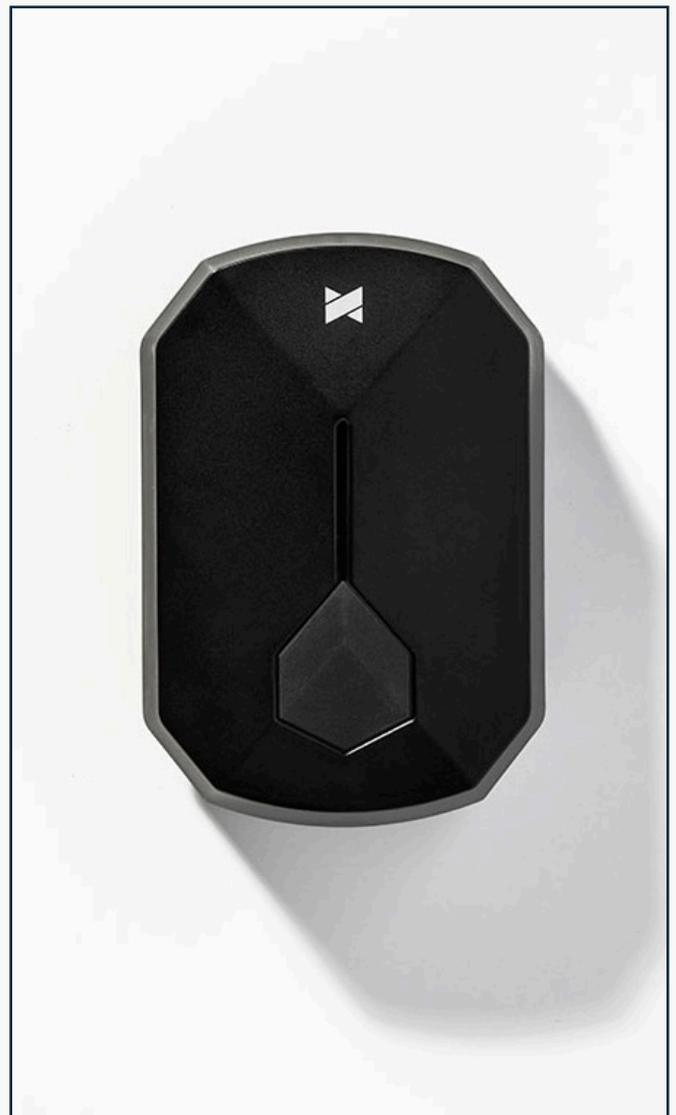
Plant Automation

There is no doubt that automation serves to be the central nervous system for the entire cement factory. Automation is usually considered the brain that collects data from a network of sensors deployed on heavy machinery at their limestone mining sites, stock yards, crushers, conveyer belts, and gearboxes which then puts this data to good

use by automating cumbersome processes. The mere connection among all the factory equipment and other systems eliminates information silos on the shop floor - leading to a meaningful and valuable exchange of information across various departments.

Equipment Monitoring & Predictive Maintenance

Using our wireless sensors on machinery and equipment, operators can instantly detect the source of their problem. This reduces inspection time and ordering time (in case of a part repair). In other words, the turnaround time (TAT) of faulty factory equipment is reduced, which leads to saved costs and time.





Predictive Quality & Process Control

Cement production is a straightforward process with 3 major phases - raw material crushing and grinding, baking this raw material, and grinding the baked output, known as clinker, to get cement. Though this process reads easy, a lot of parameters (like the speed of the mill, mill temperature, clinker feed temperature, grinding duration, etc.) make the process fairly complicated. Advanced predictive

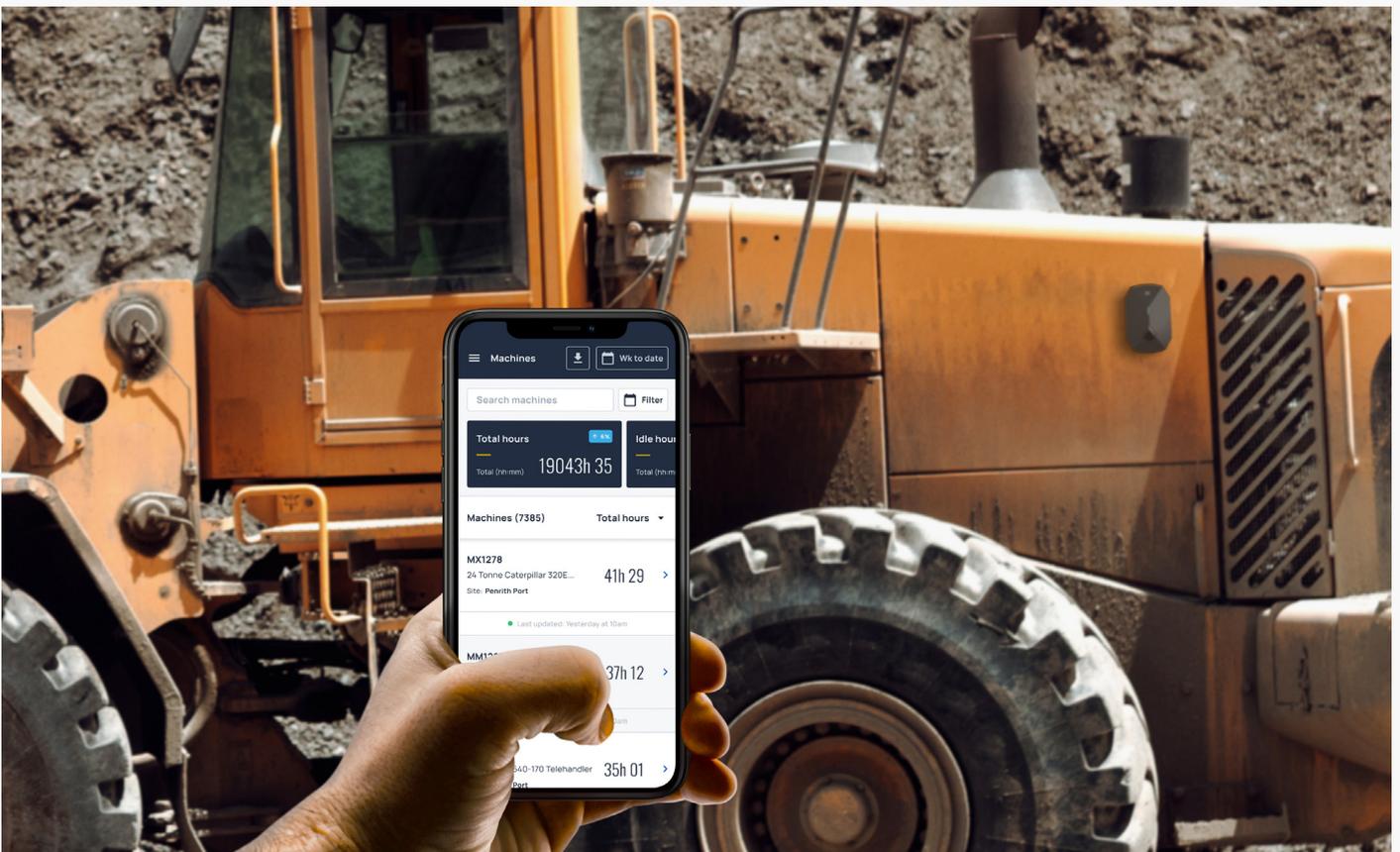
systems can be used to detect variability across these parameters. Cement companies typically use data obtained from their systems and processes to determine and assess cement quality and energy consumption. It will be useful if they can get hold of accurate data with the help of smart sensors systems, which will help them to optimize their production operations.

Connected Logistics

In the cement industry, the raw material and the finished product are highly reactive (in terms of responding to atmospheric moisture, heat, impurities, etc.). The transport of these materials mostly happens via road using trucks. Having a comprehensive understanding of each product unit and the vehicle(s) that they are in is key to having control of your supply chain. Our vehicle telematics

sensors /solutions can help you monitor the location of each vehicle in your fleet, the payload carried by each vehicle, and the vitals of your crew members.

To summarize, I would say our full-fledged telematics solutions spans across all the areas of an organization.





About MachineMax

MachineMax provides an equipment management platform for heavy equipment users and owners to maximise the productivity and profitability of every machine in the greenest way possible... any make, any model, anywhere!

MachineMax came to life when Royal Dutch Shell & Boston Consulting Group's Digital Ventures joined forces to revolutionise the heavy equipment industry. After extensive research, the complexities of tracking mixed fleets, with varying levels of machine connectivity became apparent and so MachineMax developed a product which solves these challenges head on. That was the start of the journey and since then the solution has been deployed across the globe with exceptional results picking up several industry and technology accolades along the way.

The MachineMax full-stack offering includes a cloud-based aggregation layer which normalises and aggregates incoming equipment data, irrespective of the telematics provider. If an equipment is not connected, we can provide our revolutionary self-powered, wireless sensor. Cloud computing is then used to deliver real-time data and analysis, displayed in an intuitive platform which is accessible to all stakeholders, allowing users to optimise their fleet operations in real time.

Our mission is to track all equipment, allowing our customers to manage their entire fleet from one place, providing visibility and allowing them to make decisions which result in improved revenue and capital discipline, decreased operating costs and a better carbon footprint.