

Dalla Cement Works, an integrated unit of UltraTech, in Sonebhadra district of Uttar Pradesh, partnered with Manufacturing Digitalization Cell and successfully incubated the technology (Proof of Concept) 'MachineMax'. The technology helps digitalise operations using artificial intelligence-based activity wireless sensors and global positioning system (GPS). The technology was initially deployed, for over two months, on selected mix of heavy earth moving machinery (HEMM) like excavators, drill machines, dozers, tippers, and breakers.

Extensive reliance on HEMM as part of limestone mining operations and the inability of the mining unit to assess their equipment performance and asset utilisation pushed the organisation towards digitalising some of its operations.

Digitalising its operations enabled UltraTech to better monitoring and assessment of performance of equipment. This also allowed a better assessment of asset utilisation given that HEMM is a key part of limestone mining operations.

'MachineMax' interactive user interface has helped capture the real-time percentage of asset utilisation including on/off time, idle time, idle hotspots of the HEMM. The technology has provided operational insights like routes, distance travelled in kilometres, over-speeding alerts, and fuel consumption trends essential to monitor the efficiency of HEMM operators.

With the help of this technology, the unit observed an average vehicle idling time of 10% of the total active hours for which the machine was in operation.

The technology adoption in the minimum operation has enabled increased savings on fuel and consequently helped reduce UltraTech's carbon footprint.