

# Hindustan Zinc launches AI-enabled Switchyard Monitoring to eliminate unplanned outages

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[Hindustan Zinc Ltd](#) has launched an AI-enabled Switchyard Hotspot Monitoring System at its Debari smelter, the oldest zinc smelter globally, located in Rajasthan. This innovative digital solution aims to enhance equipment reliability and efficiency by providing real-time monitoring of electrical fluctuations, automated alerts via WhatsApp and tiered email, and enabling access through both on-premises and cloud platforms. The implementation of this system is anticipated to transform unplanned shutdowns into planned maintenance, thus improving operational uptime and production efficiency.

## Early issue detection

Developed by Hindustan Zinc, Vedanta Spark, and Ripik. AI, the application enhances early issue detection and intervention, leading to a nearly 20 per cent reduction in production losses by completely eliminating unplanned outages. Accessible via cloud deployment and from the Electrical SCADA Room, it allows operational teams to respond

quickly to inefficiencies. This solution is part of Hindustan Zinc's larger initiative to implement AI-driven monitoring and automation to maximise asset utilisation, with plans for scaling across various operational locations.

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## Vision for tech-first operations

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Hindustan Zinc's CEO – Arun Misra, said, "The Switchyard & Rectifier Hotspot Monitoring Application is another step forward in our journey towards more optimised operations. At Hindustan Zinc, we believe digital innovation is key to shaping the future of metals and mining. By embedding innovative AI-driven monitoring and technology-led predictive systems, we are not only increasing production efficiency but also solidifying the foundation for scalable, tech-first operations across all our units in Rajasthan."

## Driving the future of mining

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Hindustan Zinc is innovating in the metals and mining sector by utilising advanced technologies to improve safety, efficiency, and sustainability. The company collaborates with over 40 technology startups on more than 60 projects via Vedanta Spark, an accelerator programme aimed at addressing business challenges with emerging technologies. Key technologies applied include Artificial Intelligence, computer vision, drone solutions, IoT, and AR/VR.

Recently the company introduced an AI-powered camera surveillance system to enhance workplace safety, operational efficiency, and compliance, achieving a 20-30 per cent improvement in efficiency and a 50 per cent reduction in manual intervention. Additionally, robotic automation in smelting has improved precision and product quality, positioning Hindustan Zinc as a leader in the future of mining in India and setting new industry benchmarks.