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(51) International classification	:G06Q0010200000, H04L0067120000, G01D0009000000, G05B0023020000, H04L0009000000	(71) <b>Name of Applicant :</b> <b>1)NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY</b> Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
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(57) Abstract :

The invention discloses an IoT-based system for smart industrial equipment health monitoring, comprising vibration sensors (101), temperature sensors (102), pressure sensors (103), and power meters (104) for real-time data collection. The system integrates an edge processing unit (105), predictive machine learning models (105a), a cloud-based dashboard (106), and automated alerts (107). The invention provides predictive maintenance, reduces downtime, enhances energy efficiency, and ensures equipment reliability. Blockchain modules (108) secure the data. The system delivers actionable insights, enabling industries to achieve safer, cost-effective, and sustainable operations.

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