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(57) Abstract :

An artificial intelligence–based smart production management system for electronic and digital industries is disclosed. The system integrates real-time data acquisition from industrial machines, sensors, and enterprise systems with advanced artificial intelligence techniques including machine learning, deep learning, and reinforcement learning. The invention enables predictive maintenance, dynamic production planning, quality optimization, and autonomous decision-making through a unified intelligent framework. A digital twin module facilitates simulation and validation of production strategies prior to deployment, while a hybrid cloud–edge architecture ensures scalability, low-latency control, and secure operation. The proposed system supports self-learning, self-optimizing, and resilient manufacturing processes, significantly improving efficiency, reliability, and sustainability in modern e-industries. Accompanied Drawing [FIGS. 1-2]

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