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(57) Abstract :

The present invention discloses an AI-driven resource optimization engine (100) for sustainable enterprise IT infrastructure comprising a Resource Monitoring Module (102), Predictive Analysis Engine (104), Dynamic Allocation Controller (106), Energy Optimization Manager (108), and Adaptive Learning Module (110). The system autonomously monitors, predicts, and reallocates resources to optimize energy efficiency, operational costs, and sustainability metrics without compromising service performance, using continuous learning and real-time adaptations.

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