

AI-Powered Predictive Maintenance Implementation Checklist

1) Consolidate and Clean Historical Data	
Collect and centralize historical sensor data, work orders, and failure records	
Standardize asset names, event codes, and timestamps for clean input	
Tag historical failures with root causes to improve model training	
2) Select Priority Use Cases for AI	
Identify high-value assets with frequent or high-cost failures	
Choose components with early-warning indicators (e.g. bearings, motors)	
Prioritize systems where earlier detection reduces downtime or costs	
3) Train and Test Initial AI Models	
Use labeled historical data to train supervised learning models	
Validate accuracy against known failure timelines	
Compare performance to rule-based thresholds to confirm added value	
Document false positives and adjust model parameters accordingly	
4) Deploy AI Alongside Existing Rules	
Integrate AI-generated predictions into LLumin CMMS+ alert workflows	
Keep existing rule-based alerts active for comparison and trust building	
Monitor alert accuracy, technician follow-through, and resulting outcomes	
5) Define Response Protocols for AI-Based Alerts	
Set up clear response plans (e.g. inspection, part replacement, diagnostics)	
Escalate based on likelihood score or criticality	
Ensure alert confidence levels are visible to technicians	
6) Establish Feedback Loops and Performance Review	
Ensure alert confidence levels are visible to technicians	
Track which predictions led to actionable outcomes	
Collect technician input on alert usefulness and timing	
Measure model ROI via reduced MTTR, downtime, and unplanned interventions	
7) Expand Model Coverage and Capabilities	
Roll out models across similar asset classes or sister facilities	
Develop separate models for different operational contexts (e.g. seasonal loads)	
Begin unsupervised learning for anomaly detection once data maturity improves	