

Traditional vs Predictive Maintenance Workflows

Traditional Maintenance Workflow

1) Asset operates until a scheduled interval is reached

Example: A pump is serviced every 1,000 hours or every 3 months.

2) Maintenance work order is manually generated

A planner triggers a work order based on the calendar or usage log.

3) Technician inspects the asset in person

Checks for signs of wear or failure, even if the asset is performing normally.

4) Parts are requested manually

If replacements are needed, the technician checks inventory or requests a purchase.

5) Work is scheduled around technician availability

Coordination happens through emails, calendars, or planning spreadsheets.

6) Maintenance is performed, outcome manually logged

Paper or spreadsheet records are updated; lessons may not be captured systematically.

Limitations:

- High risk of overservicing or underservicing
- Failures still happen despite following schedules
- Manual data entry slows reporting and creates silos
- Scheduling isn't aligned to actual risk or asset condition

Predictive Maintenance Workflow

1) Asset streams real-time sensor data to LLumin

Data points include temperature, vibration, load, amperage, and more.

2) AI detects early signs of risk using pattern analysis

The system identifies deviations that suggest failure is likely, not just possible.

3) Condition-based rules and predictive models trigger a work order

LLumin automatically generates a task, with priority based on severity and timing.

4) Work order includes pre-filled diagnostics and instructions

Includes asset history, recent alerts, part requirements, and SOPs for response.

5) Parts and inventory are automatically cross-checked

If the part is in stock, it's reserved. If not, LLumin can trigger procurement workflows.

6) Work is assigned and scheduled based on availability and risk

LLumin considers technician load, shift timing, and production windows.

7) Technician performs work and logs results via mobile

All data syncs to the cloud when connectivity resumes, with no duplicate entry.

8) Resolution feeds back into the system

LLumin refines its predictive models based on success/failure data, closing the loop.

Benefits:

- Early warning leads to action before failures occur
- Technicians focus only on tasks that matter, reducing time waste
- No more guesswork — data drives scheduling, inventory, and staffing
- Predictive insights improve with every cycle of input