

How MRO & ERP Improves Financial Control for Aviation Operators

Industry: Aviation

Primary Persona: CEO, CFO, VP of Operations

Sales Stage: Discovery / Pre-Demo

For an Aviation MRO, repair facility, or equipment service organization, having Preventive Maintenance (PM) built directly inside the ERP system is much more than a scheduling feature. It changes how the entire operation manages airworthiness, cost control, inventory, compliance, and planning.

The Key Operational and Financial Benefits

1. Complete Asset History in One System

When PM is inside ERP, all maintenance activity becomes part of the permanent operational record.

What this means:

- Full maintenance history tied to the **asset, serial number, or tail number**
- Labor, parts, and inspections recorded in the same system as finance and inventory
- Traceability for **FAA, EASA, or regulatory audits**
- Accurate logbook reconstruction

Benefit:

Audits, inspections, and compliance reporting become dramatically easier.

2. Accurate Maintenance Scheduling (Calendar + Usage Based)

MRO organizations must manage maintenance triggered by:

- Calendar time
- Flight hours
- Cycles
- Engine time
- Component life limits



When PM is integrated with ERP:

- Maintenance tasks are automatically triggered
- Work orders generate automatically
- Upcoming maintenance is visible months in advance

Benefit:

Prevents missed inspections and compliance violations.

3. Automatic Work Order Creation

When a PM threshold is reached, the system can automatically:

- Create a **maintenance work order**
- Assign labor
- Reserve parts
- Schedule technicians

Without ERP integration, these tasks are manual.

Benefit:

Reduces planning errors and administrative overhead.

4. Inventory Planning for Maintenance Events

Maintenance requires specific parts, often with long lead times.

When PM is tied to ERP inventory:

- Parts demand is forecast automatically
- Purchase orders can be triggered early
- Stockouts are reduced

Example

A 100-hour inspection requires:

- Filters
- Gaskets
- Hardware kits
- Consumables

ERP can pre-allocate inventory months ahead.



Benefit:

Less aircraft downtime waiting for parts.

5. True Cost Tracking Per Asset

ERP allows the business to understand:

- Cost per aircraft
- Cost per engine
- Cost per component
- Labor vs parts cost

Without ERP integration, maintenance costs are fragmented across systems.

Benefit:

Better decisions on:

- Repair vs replace
- Fleet management
- Contract pricing

6. Warranty and Service Contract Management

When maintenance is tracked inside ERP:

- Warranty coverage is visible
- Service contract obligations are tracked
- Covered parts are automatically identified

Benefit:

Prevents paying for repairs that should be covered.

7. Regulatory Compliance and Traceability

Aviation maintenance requires strict compliance with:

- FAA Part 145
- EASA
- ITAR
- Airworthiness directives
- Service bulletins



ERP-based PM systems can track:

- AD compliance
- SB compliance
- Component life limits
- Serialized part traceability

Benefit:

Reduced compliance risk and easier documentation.

8. Resource Planning for Technicians

Preventive maintenance visibility allows MRO organizations to plan:

- Technician schedules
- Hangar utilization
- Equipment usage

Benefit:

Higher labor utilization and fewer scheduling conflicts.

9. Forecasting Future Maintenance Liability

Aircraft owners and operators want to know future maintenance costs.

ERP PM systems allow forecasting of:

- Upcoming heavy inspections
- Engine overhauls
- Component replacement cycles

Benefit:

More accurate budgeting and financial planning.

10. Faster Customer Billing

Because the maintenance work order exists inside ERP:

- Labor is captured automatically
- Parts consumption is recorded
- Billing can be generated instantly



Benefit:

Improved cash flow and faster invoicing.

11. Fleet Reliability and Safety

Preventive maintenance ensures:

- Fewer unexpected failures
- Reduced AOG events
- Improved aircraft availability

Benefit:

Better operational reliability and customer trust.

12. Operational Visibility for Executives

When PM data is inside ERP dashboards, leadership can see:

- Fleet maintenance backlog
- Upcoming inspections
- Maintenance cost trends
- Hangar capacity utilization

Benefit:

Better strategic decisions.

Why This Matters for Aviation ERP (Strategically)

Many aviation companies run separate systems for:

- Maintenance tracking
- Inventory
- Accounting
- Work orders

This creates:

- Data duplication
- Compliance risk
- Cost visibility problems



A unified ERP + PM system eliminates those silos.

Executive Summary

Preventive Maintenance inside ERP allows an MRO to:

- Maintain regulatory compliance
- Reduce aircraft downtime
- Forecast parts and labor demand
- Track true maintenance costs
- Improve billing and cash flow
- Increase fleet reliability

