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## How MRO & ERP Improves Financial Control for Aviation Operators

**Industry:** Aviation

**Target Audience:** CEO, CFO, VP of Operations

**Category:** Executive Brief

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

