

## Case Study

### **Mitigating Financial Liability and Improving Equipment Reliability with intelligentMRO™**

- Sector:** General Manufacturing
- Company Size:** Maintenance operations with 100 to 200 employees
- End Results:**
1. Return-on-Investment was two (2) months.
  2. The facility increased production throughput by 6.2% on three key products.
  3. Maintenance operations reduced year-over-year spending by 11.3% in the first fiscal year.



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Perspect Analytics Inc. is a software and solution company with a sole focus on developing innovative analytical solutions to improve all areas of the Maintenance, Repair and Operational (MRO) operations. The goal is to eliminate non-value-added MRO activities while creating a responsive, data-driven continuous improvement culture by leveraging state-of-the-art AI/ML technologies.

**Actionable | Measurable | Sustainable | Adaptable**

### *The Opportunity*

The corporate-mandated TPM continuous improvement initiative for the Canadian facility targets at increasing production throughput by 5% on three (3) key production lines and reducing yearly operating expenses by 10% within 12 months. Maintenance operations were tasked with increasing equipment reliability to achieve the 5% target and reduce yearly maintenance operating expenses by 10%.

### *The Approach*

To meet the mandate's goals and objectives, the maintenance manager determined that the focus for TPM would be the Maintenance Prevention and Equipment Wellness pillars. PM Effectiveness, Workflow Efficiency, and MRO (spare parts) Inventory Optimization measures were reviewed.

In PM Effectiveness, the regulatory and lubrication PMs were considered non-touchable. It was determined that all PM tasks and activities that do not add value should be stopped.

MRO inventory optimization determined that min/max levels should be reset to eliminate the risk of spare part stock-outs, lower financial liability from overstocked SKUs, and consolidate SKUs. Where applicable, decommissioned and overstocked parts were reduced through usage, sold, returned, or scrapped.

Workflow Efficiency suggested improvements in business processes and eliminating repeated unexpected outages.

It was determined that 10% of the yearly savings would come from spare parts spending and improvements in manpower efficiency, thus allowing a reduction in headcount through natural attrition.

### *The Results*

The duration of the equipment reliability project for PM effectiveness was six (6) months. The after results show the first month after project completion.

Refer to the following table for summary key points.

Benchmark Month		
Measure	Before	After
Reactive Work %	68%	49%
Proactive Work %	28%	46%
* PM Activities	94%	42%
* Corrective Activities (Fix Before Fail)	0.2%	53%
Reactive Labour Hours	1067	326
Reactive Costs	\$95,000.00	\$23,000.00
PM Job's Failing to Add Value	89%	3%
Equipment Reliability (Uptime)	71%	82%

The equipment reliability project for MRO inventory optimization lasted eight (8) months. The after results show the first fiscal year-end after project completion.

Benchmark Fiscal Year-End		
Measure	Before	After
Stock-outs (1 year)	9231	308
Individual Inventory SKUs	64,904	51,619
SKU Min/Max		
* Over-stocked (Financial Liability)	\$6,200,000.00	\$400,000.00
* Under-stocked (Risk Stock-outs)	\$2,500,000.00	\$100,000.00
Holding Cost	\$17,000,000.00	\$10,000,000.00
Financial Write-down		\$1,700,000.00
Resale/Return Some Decommissioned and Overstock		\$400,000.00
Cost Avoidance Estimate (First Year)		\$900,000.00