



IMPLEMENTATION  
**ENGINEERS®**  
BEYOND CONSULTING

## IX® Case Study

### Implementation Design for High-Volume Automotive Operations



**\$2.6M****annual  
financial  
savings**

Our client, a high-volume Tier 1 automotive manufacturer, faced mounting operational complexity across production scheduling, inventory management, asset performance, and shop floor visibility. With fluctuating volumes and rising quality costs, the executive team knew systemic changes were required—but lacked a cohesive path forward.

## Focus Areas of Operational Redesign

Implementation Engineers was engaged to perform an intensive Implementation Design phase across the plant's core operating areas:

- Production Scheduling & Inventory Management
- Material Flow & Warehouse Operations
- Manufacturing Execution & Quality
- Asset Reliability & Maintenance
- Management Operating System
- Industry 4.0 Shop Floor Reporting

We conducted deep-dive assessments, built integrated workstream strategies, and aligned plant leaders around a focused, executable path to operational excellence.

## Key Findings & Challenges

### ✓ Production Scheduling Bottlenecks

Manual data entry delayed production schedules by hours. Without live raw material visibility or feedback loops from operations, the plant was reactive, over-reliant on supervisors, and lacked standard scheduling SOPs.

### ✓ Inefficient Material Flow & Inventory Control

No FIFO discipline. No lot control. No system-driven movement of raw or finished goods. Inventory inaccuracies were common, and material flow relied heavily on tribal knowledge and verbal communication.

### ✓ High Equipment Downtime

Over 51,000 hours of downtime in 12 months—driven by unplanned mechanical failures, slow changeovers, and poor alignment with PPAP standards. Critical presses ran as low as 37% availability.

### ✓ Escalating Cost of Poor Quality (COPQ)

Containment costs, rejects, and unplanned inventory adjustments caused COPQ to spike from \$108K to \$195K/month. RCCA was missing for over 60% of complaints.

### ✓ Underdeveloped Maintenance Program

No preventive maintenance execution. No planning or scheduling. No CMMS hierarchy. Maintenance was overwhelmingly reactive—with no root cause analysis or work history.

### ✓ Limited Visibility on the Shop Floor

Manual, delayed, and error-prone reporting created major data integrity issues. Operators lacked access to performance metrics, and supervisors spent excessive time on administrative tasks.

### ✓ Low Maturity Management System

Leader Standard Work, Tiered Meetings, KPIs, and structured coaching were not in place. Supervisors spent 80% of their time on administrative and reactive firefighting activities.

# Implementation Design Strategy

We developed an integrated strategy across six tightly coordinated workstreams. Each was designed to resolve root causes, strengthen daily execution, and lay the foundation for sustainable, data-driven performance:

## Production Scheduling Transformation

- Live dashboards and KPIs to track schedule attainment
- SOPs and training to standardize planning and communication
- Automation of manual reports and schedule generation

## Material Flow Redesign

- Power BI-based material call system
- Defined drop zones and warehouse flow paths
- SOPs for warehouse-to-line coordination and FIFO adherence

## Operations & Quality Improvement

- Focused 6S and SMED on six priority presses
- RCCA implementation on all major downtime and quality losses
- SOP alignment with PPAP and press capability

## Asset Performance Excellence

- Complete asset hierarchy and maintenance planning
- Daily/weekly operator reports to improve accountability
- MTBF and MTTR tracking to transition from reactive to proactive maintenance

## Management Operating System

- Rebuilt mini-flow and tiered meeting structure
- Visual management boards, KPIs, and action logs
- Coaching and training to support frontline leadership

## Industry 4.0 Enablement

- Supervisor and operator data entry apps
- Scanning and automated data capture for TMM
- Live dashboards to improve visibility and response time

# Financial Value Unlocked

Our Implementation Design uncovered tangible value across multiple levers:

- **\$1.0M in labor savings** by restoring labor efficiency from 71% back to 86%
- **\$1.6M in annualized cost of poor quality savings** by reducing rejects, containment costs, and scrap
- **37,000 labor hours recaptured** by minimizing downtime and improving flow
- **Inventory accuracy gains and warehouse space optimization** poised to support throughput growth without physical expansion

# Let's Turn Your Vision Into Results

At Implementation Engineers, we don't just execute projects - we transform your vision into operational reality. Our proven 3-phase approach - **Align, Design, Execute** - delivers lasting value, from aligning your team on strategic goals to optimizing operations and driving measurable outcomes. Whether you're aiming to lead your market, boost efficiency, or maximize shareholder value, we're here to make it happen, step-by-step, side-by-side.

## Ready to Get Started?

Let's explore how we can bring your vision to life. Contact us today to schedule a conversation. Together, we'll chart the path to your success.

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