MPM^2
Multi-company Project Management Modified

MPM^2 is a modification of Multi-company Project Management methodology for application to operations improvements. It incorporates the principles of Multi-company Management and Project Management together with Six Sigma tools and techniques to create an implementation plan and execution that achieves double digit improvement in overall equipment effectiveness. It utilizes the Six Sigma methodology of Define, Measure, Analyze, Improve, and Control (DMAIC) and the metric of Overall Equipment Effectiveness (OEE) while focusing on the following four aspects of equipment performance:

Availability	**Performance**	**Quality**	**Upgrade**
Reduce Breakdowns	Speed Optimization	Defect Reduction	Function
Reduce Changeover Time	Reduce Idle Time	Minimize Rework	Reliability
Minimize Adjustments	Eliminate Minor Stoppages	Start up Impact	Speed

The process begins with a no cost assessment of the opportunity for improvement based on engineered capacity and current state followed by an evaluation of the manufacturing environment. Successful completion of the assessments and contract agreement begins the process involving Leadership, Measurement, and Improvement teams according to the following outline:

MPM^2 Process Outline

Opportunity Assessment – Joint broad-brush evaluation of equipment capability and current state

Environmental Assessment - Completed by consultant using Environmental Assessment Form

Contract Agreement - Customer issues contract to Implement MPM^2

Leadership Team Formation – MPM^2 Awareness and Organization of Measurement Team

Measurement Team - Formation and detailed measurement of current state

Leadership Team Improvement Planning - Set Goals, Organize Improvement Teams

Multiple Improvement Teams (simultaneous, overlapping, or sequential)
- 1st on site event – Analyze & make improvements
- Homework – Complete assignments from 1st event
- 2nd on site event – Verify, adjust, standardize improvements

Leadership receives report outs - Each improvement team reports after each event

Leadership Close Out - Summarize results and lessons learned

This process works best when applied to an organization with a manufacturing environment consisting of supportive leadership, effective teams, good work place organization (5S), on going continuous improvement activities, structured planned maintenance in place, flexible work rules, willingness to learn, with health and safety established as the top priority. The manufacturing environment forms the foundation for building the MPM^2 team process. The team process consists of a leadership team that drives the overall process, a measurement team for data gathering and analysis, and multiple short-term improvement teams. The following chart details the team structure listing participants, responsibilities, deliverables, and tools used for each team.

Team Structure

	Leadership Team	Measurement Team	Improvement team
	Key Corp Exec.	Prod. Suprv	Operator
	Area manager	Team members TBD	Maintenance
	Maintenance	Consultant	Quality
Participants	Production		Corp. Tech. Support
	Quality		Equip. Specialist TBD
	Equip Repr.		End user
	Consutant		Consultant
	Improvement Initiation	Refine Current State data	Assigned Goal
	Leadership		
Responsibility	Team Close Outs		
	Group norms	Group norms	Group norms
	Set Improvement Goals	Define roles of participants	Adhere to Goals
	Corporate org. charts	Current State Report	Participants roles defined
	Improvement Team org. chart	Avg die change/part	Daily report outs
	Establish Imprv. teams	Avg Coil change/part	Final Report out
Deliverables	Define Team authority	Avg stackchange/part	Maintain daily logs.
	Improvement team timing	Top 10 parts below speed	Track Goal Performance
	Evaluate project execution	Overall speed loss	Plan/Coord activities
	Process consistency	Breakdown issues	Visual log on site
	Oversee Team Events	Major sources of downtime	
	Improvement team site prep		
	Brainstorm	Brainstorm	Brainstorm
	Group Norms	Group Norms	Group Norms
	Team Formation Checklist	Team Formation Checklist	Team Formation Checklist
	Personal History	Personal Introduction	Personal Introduction
	Organizational Chart	Capacity Planning Tool	Lean tools as required
Tools &	Responsibility Chart	Responsibility Chart	Responsibility Chart
Techniques	Categorization	Categorization	Categorization
	Set Goals	Pre-meeting checklist	Site Visual Control Board
	Gantt chart	Automated data collection	Daily Summary
	pre-meeting checklist	Current state data checklist	Task list
	capacity planning tool		Report out
	Pareto chart		Gantt chart
			Pre-meeting checklist

The leadership team and the individual short-term goal specific improvement teams are the core elements of the process. The short term improvement teams provide a high degree of flexibility that allows the process to be tailored to fit the needs of any manufacturing situation in terms of resources, equipment accessibility, and urgency since they can be scheduled sequentially, overlapping or simultaneously. The leadership team makes decisions on priority, resources, equipment access, improvement team authority etc. required to facilitate the teams. The improvement teams have a specific goal and two separate event time slots to execute their assignments divided by a time-period to complete required homework assignments as defined by the team.

The first application of the process by Automatic Feed Company Inc. and Kasle Metal Processing, LLC from September 2007 to February 2008 yielded the following results:

64% reduction in die change time
38% reduction in coil change time adding an operator
31% Average speed Increase in 2/3 of part volume (Speed increases ranged 11% to 45%)
Completion of general maintenance and equipment corrections

Estimates of overall results forecast double-digit OEE improvements expected to generate a bottom line savings potential of $700K to $1 million for 2008. The supplier submitted new equipment and upgrade proposals totaling over $800K, which the customer figured had a business case payback of less than a year. In summary, the annual improvement dollars generated from MPM^2 created the funds needed for new equipment and upgrades from the supplier resulting in a win-win for both parties.

The MPM^2 Process provides a structured approach dramatically increasing the results of any manufacturing process. The initial no cost assessment insures all parties that the opportunity for improvement is sufficient to warrant the effort and the manufacturing environment can effectively integrate the MPM^2 Process. The process has the following benefits:

- Drives an increased focus on high impact improvement efforts
- Compliments existing systems & teams
- Leadership links all stakeholders
- Establishes clear priorities & timetables
- Assigns required resources and access to equipment
- Consolidates Customer & Equipment supplier experiences & knowledge
- Applies Team and Project Management methodologies
- Utilizes Six Sigma tools/techniques

These benefits yield an enhanced improvement process that delivers double-digit improvements in overall equipment effectiveness.

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