

Lean Tools and Process Control



Total Productive Maintenance

• Initiatives

- Reducing Equipment Breakdown
- Reducing Setup Time
- Stoppages from nonconforming product
- Maintaining optimal equipment performance
- Reducing scrap and rework



Benefits

- Provides insights into other parts if the improvement cycle
- Identify and address the eight wastes
 - Defects
 - Overproduction
 - Waiting
 - Not utilizing talent
 - Transportation
 - Inventory
 - Motion
 - Excessive Processing



Evolution

- Breakdown Maintenance
- Corrective Maintenance
- Preventative Maintenance
- Productive Maintenance



Elements

- Maintenance infrastructure
- Overall Equipment Effectiveness
- Training and Education
- Workflow and controls
- Operational Involvement



Overall Equipment Effectiveness

- Availability - Downtime
- Performance - Speed
- Quality Rate
- $OEE = A \times P \times Q$


