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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AM</td>
<td>Autonomous Maintenance</td>
</tr>
<tr>
<td>AGV</td>
<td>Automated Guided Vehicles</td>
</tr>
<tr>
<td>BPR</td>
<td>Business Process Re-engineering</td>
</tr>
<tr>
<td>BM</td>
<td>Breakdown Maintenance</td>
</tr>
<tr>
<td>CBM</td>
<td>Condition Based Maintenance</td>
</tr>
<tr>
<td>CFT</td>
<td>Cross Functional Teams</td>
</tr>
<tr>
<td>CII</td>
<td>Confederation of Indian Industries</td>
</tr>
<tr>
<td>CIM</td>
<td>Computer Integrated Manufacturing</td>
</tr>
<tr>
<td>CNC</td>
<td>Computer Numerical Control</td>
</tr>
<tr>
<td>CoPM</td>
<td>Cost of Poor Maintenance</td>
</tr>
<tr>
<td>DIPP</td>
<td>Department of Industrial Policy and Promotion</td>
</tr>
<tr>
<td>ERP</td>
<td>Enterprise Resource Planning</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
<tr>
<td>FMECA</td>
<td>Failure Mode Effect and Criticality Analysis</td>
</tr>
<tr>
<td>FME</td>
<td>Flexible Manufacturing Environment</td>
</tr>
<tr>
<td>FMS</td>
<td>Flexible Manufacturing System</td>
</tr>
<tr>
<td>FI</td>
<td>Focused Improvement</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GT</td>
<td>Group Technology</td>
</tr>
<tr>
<td>JIPM</td>
<td>Japanese Institute of Plant Maintenance</td>
</tr>
<tr>
<td>JIT</td>
<td>Just In Time</td>
</tr>
<tr>
<td>LTA</td>
<td>Logic Tree Analysis</td>
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<tr>
<td>MPM</td>
<td>Maintenance Performance Measurement</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<td>---------</td>
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<tr>
<td>MPI</td>
<td>Maintenance Performance Indicator</td>
</tr>
<tr>
<td>MTBF</td>
<td>Mean Time Between failures</td>
</tr>
<tr>
<td>MTTR</td>
<td>Mean Time To Repair</td>
</tr>
<tr>
<td>NC</td>
<td>Numerical Control</td>
</tr>
<tr>
<td>OEE</td>
<td>Overall Equipment Effectiveness</td>
</tr>
<tr>
<td>O &amp; M</td>
<td>Operational and Maintenance Cost</td>
</tr>
<tr>
<td>OPL</td>
<td>One Point Lesson</td>
</tr>
<tr>
<td>OTE</td>
<td>Overall Throughput Effectiveness</td>
</tr>
<tr>
<td>PQCDSM</td>
<td>Productivity, Quality, Cost, Delivery, Safety and Morale</td>
</tr>
<tr>
<td>QFD</td>
<td>Quality Function Deployment</td>
</tr>
<tr>
<td>RCA</td>
<td>Root Cause Analysis</td>
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<tr>
<td>RCM</td>
<td>Reliability Centered Maintenance</td>
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<tr>
<td>SMED</td>
<td>Single Minute Exchange Die</td>
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<tr>
<td>TEEP</td>
<td>Total Equipment Effectiveness Performance</td>
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<tr>
<td>TPS</td>
<td>Toyota Production System</td>
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<tr>
<td>TPM</td>
<td>Total Productive Maintenance</td>
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<td>TQM</td>
<td>Total Quality Management</td>
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<tr>
<td>TPMP</td>
<td>Total Plant Maintenance Productivity</td>
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<td>VBM</td>
<td>Vibration Based Maintenance</td>
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<td>WCM</td>
<td>World Class Manufacturing</td>
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TPM TERMINOLOGY

**Total Productive Maintenance**: Total Productive Maintenance (TPM) is a maintenance philosophy which involves improving the maintainability and reliability of plant and equipment. The goal of the TPM is to enhance the overall efficiency, motivating the employees and creating an autonomous environment.

**Jishu Hozen**: It is also known as Autonomous maintenance. A mother pillar of Total productive maintenance (TPM) in which shop floor operators carry out basic maintenance activities (such as cleaning, lubrication and inspection).

**Kobetsu Kaizen**: It is also known as a Focused improvement. It is an important pillar of TPM that includes activities such as enhancing the overall equipment effectiveness of equipment, processes and plant through identification and elimination of losses and failures.

**5S**: Housekeeping technique

1S (Seiri): Sorting {To get rid of unwanted items}.

2S (Seiton): Set in order {To locate a specific place specific items of a specific quantity, where needed}.

3S (Seiso): Shine and sweep {Cleaning the workplace and visually inspect for abnormalities}.

4S (Seiketsu): Standardize {To consolidate the first 3S by establishing standard procedures}.
**5S (Shitsuke):** Sustain (To sustain improvements and make further improvements by encouraging effective use of the “Check-Act-Plan-Do” cycles.

**Kaizen:** A plan of action where employees work together effectively to achieve regular, continuous, gradual improvements and suggestions in the manufacturing process.

**Muda (Waste):** Anything in the manufacturing process that does not add value from the customer’s perspective.

**Gemba (Real Place):** A philosophy that reminds us to get out of our offices and spend time on the plant floor i.e. the place where real action occurs.

**Just-In-Time (JIT):** Pull parts through production based on customer demand instead of pushing parts through production based on projected demand.

**Toyota Production System (TPS):** It is a manufacturing philosophy and practices developed by Toyota Motor Corporation of Japan over a period of many years. The main objectives of the TPS are to design out when machines and team members are overburdened (Muri), irregularity (Mura), and to eliminate waste (Muda).

**Overall Equipment Effectiveness (OEE):** OEE is a performance metric compiled from three parameters of the machine (or process) being measured. The three parameters are Availability, Performance Efficiency and Rate of Quality.

**Condition Based Maintenance:** It is defined as an assessment of the condition of the machine which is made on the basis of which failure of the machine is predicted. Vibration monitoring, thermography, oil analysis and ferrography are monitoring techniques that directly indicate the level of wear.
Mean Time Between Failures (MTBF): Mean time between failure (MTBF) signifies the average amount of time that an equipment or device operates before failing. This unit of measurement includes the only operational time between failures and does not include repair times, assuming the item is repaired and begins functioning again.

Mean Time To Repair (MTTR): Mean time to repair (MTTR) is the average time required to fix a failed device or component and return it to operational status. It is a basic measure of maintainability of repairable items.

Maintenance Performance Indicator (MPI): It is defined as an early warning system for operation and maintenance process which indicates the level of performance, so as to able to proceed for evaluation, prediction and corrective action.

Key Performance Indicators: It is defined as a metrics designed to track the progress by achieving the critical goals, targets and well-defined objectives of the organization.

Root Cause Analysis: It is a problem-solving methodology which is used to diagnose and identify the root causes of problems or faults. It is a common approach to ask why five times in order to move a step closer to discovering the true underlying problem.

Single Minute Exchange of Die (SMED): SMED (Single-Minute Exchange of Dies) is a system for reducing dramatically the time it takes to complete equipment changeovers. Each and every element of the changeover is minutely analyzed to see if it can be eliminated, moved, simplified, or streamlined.

Six Big Losses: The production losses are categorized into six major categories:

- Breakdowns
• Setup/Adjustments
• Small Stops
• Reduced Speed
• Startup Rejects
• Production Rejects

**Value Stream Mapping:** Value Stream Mapping (VSM) is a pencil and paper tool that helps you to see and understand the flow of material and information as a product makes its way through the value stream.