



TPM training (3+1 days)

Participants of the training will get to know the structure and operation of TPM. Will learn the structured visualization and breaking-down of wastes. Will be able to interpret the indicators for tracing machine effectiveness and reliability, and will get to know the methods to improve these indicators.

	Morning (4 hours)	Afternoon (4 hours)
Day 1	<p>Introduction</p> <p>The meaning, goals and scope of TPM</p> <ul style="list-style-type: none"> • The concept and structure of wastes • Man related wastes • Machine related wastes • Material related wastes • Energy related wastes • The definition of TPM • Building up the system for decreasing (eliminating) wastes (8 pillars) 	<p>The key metrics of TPM</p> <ul style="list-style-type: none"> • The meaning and generation of OEE • Breaking-down the OEE measure • The meaning and generation of MTBF • The meaning and generation of MTTF • The meaning and generation of Aa • The role of indicators in breaking-down wastes • The reliability of data acquisition required to generate the key indicators • Indicator calculation exercise
Day 2	<p>Planned maintenance</p> <ul style="list-style-type: none"> • Classification of machines • Types of maintenance • Maintenance strategy • Considerations for developing planned maintenance • The 5 main reasons for the occurrence of machine failures • The steps for decreasing machine failures • Machine failure analysis form 	<p>Autonomous maintenance / management</p> <ul style="list-style-type: none"> • Initial Basic cleaning (the role of tagging) • Developing areas of difficult cleaning, and eliminating the sources of contamination • Developing temporary standards • Defining overall inspection • Developing autonomous inspection • Improving the standards • The extension of autonomous management
Day 3	<p>Decreasing change-over time (SMED)</p> <ul style="list-style-type: none"> • Change-over, as a waste • Determining change-over time • External activities during a change-over • Internal activities during a change-over • The steps for decreasing change-over time • Exercise for separating internal and external activities • Tool change, as a waste 	<p>Quality maintenance</p> <ul style="list-style-type: none"> • Product quality and machine conditions • Determining the conditions for defect-free equipment • Early phase equipment and product management <p>Summary and outlook</p> <ul style="list-style-type: none"> • The steps of introducing TPM • Experiences of introducing TPM in Hungary • TPM and TPM based maintenance
Day 4	Downtime break-down and machine failure analysis workshop (optional)	