No matter how you cut it... we can optimize it.

MPMeng.com
MPM Optimization Overview

MPM Engineering has dedicated its efforts over the past 30 years to increasing efficiencies and productivity in lumber operations around the world. Our proven optimization systems utilize state-of-the-art software, programmed by our in-house engineering team. We have designed highly-efficient optimization systems for every station in the wood processing cycle, including:

- Log Optimization
- Board Optimization
- Lumber Sorting
- Wood Size Inspection

Our goal is to increase the output and productivity in your factory. We have designed our optimization systems to be compatible with all different types of lumber operations found across the globe. We integrate our systems into your existing operation, ensuring a seamless and painless transition towards a more efficient operation.

Log Optimization

MPM Engineering has put many years of experience to work designing comprehensive log optimization solutions. Our goal is simple: to increase your productivity and yield by providing best-in-the-industry software, hardware and ongoing support for your sawmill operation.

Utilizing advanced HMI, as well as advanced scanning technology, our Log Optimization systems supply the best sawing solution based on parameters set by the user.

We have designed Log Optimization systems for the following sawmill operations:

**Bucking** – MPM’s Bucking/Merchandizing Optimization system scans and optimizes tree-lengths to provide the optimum bucking solution. This is the first optimizer in the product cycle, and determines the best stem solution by analyzing physical defects, considering the parameters of user-defined blocks, examining machinery models for the destination of each block, and following any product or log mix factory requirements.

**Sorting** – MPM’s Log Sorting system scans and optimizes in order to sort logs by diameter, defect, or sawing pattern. This system can determine which logs fail specifications and need to be rejected,
based on a variety of criteria. We have designed the Log Sorting system to be versatile — it is currently capable of incorporating 3D geometric data, surface imaging, X-Ray inputs, as well as being adaptable to new advances in scanning technology.

**Rotation** – The Log Rotation system analyzes a scanned log to find the best rotational position, based on product value or volume. This system fully models the downstream machinery to predict the outcome of the log and consider risk (loss of net value) in situations of mis-rotation. An optional add-on to this product is MPM’s Log Rotation Analysis and Correction System.

**Primary Log Breakdown** – MPM’s Log Breakdown Optimization system finds the optimal cutting solution of a scanned log by moving the various breakdown machinery and fitting boards until the most valuable solution is found. This versatile product can be set to optimize the log by product value or volume, depending on your specific needs.

**Cant Optimization** – MPM’s Cant Optimization system is dedicated to the gang machine centre, which allows it to analyze a scanned cant and fit boards until the best recovery is found. Defined gangs can be evenly or variably spaced so that any mix of board thicknesses can be achieved.

### BOARD OPTIMIZATION

MPM’s Board Optimization systems are able to scan transversely or linearly while optimizing the board for the most effective trimming and edging solution. This system supports cut-in-two, pass through (trim-only decision), bow, crook and twist. The versatility of our board optimization system allows it to be used for a variety of different saw types.

MPM’s custom Board Optimization systems are incorporated into the following sawmill operations:

**Edgers** – MPM’s Edger Optimizer looks for the best solution of a scanned flitch by considering boards at different skews and offsets, as well as any constraints that the machinery and downstream trimmer may require.

**Trimmers** – MPM’s Trimmer Optimizer finds the optimal trim solution by scanning the board transversely and applying image analysis to detect surface features. Once scanned, the optimizer considers both the limitations of the trimmer machinery as well as any option of re-edging the piece in determining its final decision. Our trimming systems are available for applying in both the green mill and planer mill.

These systems incorporate four key elements: image analysis, external inputs (e.g. PLC controls), product definition and sawmill machinery modeling.
LUMBER SORTING

MPM Engineering’s Lumber Sorting system is PLC-based with a Microsoft Windows interface software package. Our Lumber Sorting system is user friendly, easy to operate and simple to troubleshoot.

Some features of our Lumber Sorter are:

• Determines the location for placing the board, considering which bins are full or disabled and how the user has configured the decision behavior.

• Can set any combination of board placing decision parameters (counts, lengths, widths, thicknesses, grades, species and moisture content).

• Graphical display of bin status can be distributed to multiple displays as an HMI / SCADA down the sorting line.

• Fully redundant system that can operate purely on the PLC in situations where the Lumber Sorter software or PC is taken offline.

• Supports an operating speed of 200+ lugs per minute.

• Easily retrofit on existing sorting systems as well as new machinery.

WOOD SIZE INSPECTION SYSTEMS

MPM’s Wood Size Inspection system measures the wood within the production process to determine if the machinery is cutting on-size, and raises alarms if the deviations exceed the maximum allowable target sizes. This highly sensitive scanning technology delivers maximum accuracy, tracks machine performance, and identifies cutting tools that are not operating properly.

Some features of our Wood Size Inspection System are:

• Real-time trend data reporting and warnings to the operator.

• Full historical reporting using Crystal Reports and SQL databases.

• Accurate prediction of repair and maintenance cycle requirements.

For more information contact us at: +1.604.574.1397

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Established in 1980, MPM Engineering Ltd. has become an industry leading innovator, supplier, installer and on-going support provider for wood processing optimization systems and machine automation. Our primary objective is to continuously improve current systems and develop new real-time solutions to help clients pursue opportunities and ultimately reach their potential.

Simply put, if you would like to increase the output of your factory in terms of improved quality and product yield, you need to give us a call.

Throughout our years in the industry, we have been continuously evolving our software and systems. Our product development never stops, so you can be assured that you are receiving the highest quality and most versatile optimization systems in the industry.

To complement and complete our optimization and automation packages, we have developed HMI / SCADA solutions to allow for intuitive control over the operation of your factory. Our software experts can customize the HMI so that it fits your needs, yet maintains a level of transparency and simplicity.
MPM Engineering is a world leader in Optimization and Automation of machinery used in wood processing, from tree to finished product. Our systems are installed on almost every continent, conversant in both metric and imperial, and translated into a multitude of languages.