

## Don't Forget the **Software**

*The productivity of a cutting operation is not all about the saws and blades. Length nesting optimization software can make a big difference.*

**I**mproving a company's bottom line through increased operational efficiency is a constant effort for service center owners and managers. This leads companies to buy more powerful, more automated and better saws and material-handling equipment. Often overlooked is another tool that doesn't require such a large capital investment: length nesting optimization software.

With length nesting optimization software, a planner can determine the best way to saw multiple order items of the same or different lengths from one or more pieces of stock of the same or different dimensions. The overall objective is to minimize the amount of scrap. The lower the scrap generated from a cutting operation, the higher the profits on the material.

In the past, to optimize the cutting of beams, bars or angles, planners would either attempt to manually calculate the best way to cut multiple items together or they would re-key orders and inventory information into an independent optimization software program. Today, software companies, such as Invera, offer integrated length optimization software options that enable service centers to more effectively combine multiple order items of different cut lengths quickly and efficiently.

Manual optimization clearly has its limitations. Re-keying orders and inventory into an independent system is time consuming. To save time, users often only include stock lengths rather than the full inventory available.

Optimization software that is integrated with an ERP system, such as Invera's STRATIX, offers significant benefits:

- **Better Inventory Utilization**—All inventory including stock lengths and drops can be considered for the optimization.
- **Increasing Productivity**—Because the optimization function is integrated, no re-keying of data or "transfering data" back and forth between systems is required.
- **Optimizing all cutting jobs**—Because the function is integrated and requires no additional effort, planners can

choose to nest all jobs, even those with few items.

■ **Improving Profits**—Better inventory utilization, increased productivity and lower scrap all lead to improved profits.

Generally, the user of length optimization software would want to include all orders and inventory and determine what combination could be used to do each job with the least amount of scrap. There are other considerations, however. Optimization systems must provide planners with options that enable them to direct the system to use only select inventory or orders.

For example, it may be more advantageous to process large orders from a single customer, rather than mixing them with orders from other customers, to simplify the post-processing material-handling and shipping.

When the warehouse is busy, it may be more important to minimize the number of inventory items from which pieces are cut. In that case, the planner might direct the system to use only items longer than 20 feet. Otherwise, the system could select many different and shorter drop lengths. While they might yield lower scrap weight, the benefit would be offset by the additional material-handling and sawing time.

A length optimization program that is integrated with the service center's ERP system offers other productivity advantages. For example, once the desired layout for a job has been determined, it automatically syncs with the production system. That allows the service center to take full advantage of the ERP's scheduling, shop floor and work order systems.

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*Invera Corp., Houston, offers the STRATIX enterprise management system designed specifically for metal service centers. For more information, call 514-925-8558 or visit [www.invera.com](http://www.invera.com).*

**Editor's note:** This article was contributed by the experts at Invera.