

REALLOCATING LABOR IN THE METALWORKING INDUSTRY

The importance of automating waste stream systems increases as attracting and retaining employees becomes more difficult.

By Mike Hook, Sales & Marketing Director, PRAB

Introduction

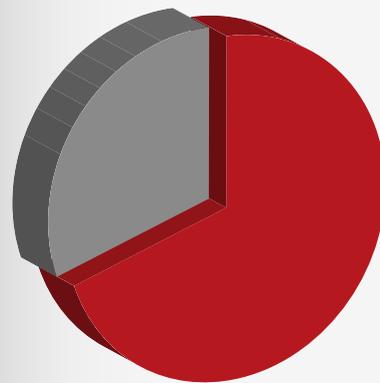
These days, bringing in business is not the biggest problem for many North American metalworking plants, according to industrial supply company Grainger. In its 2018 online article *Metalworking Today: Three Trends to Watch*, Grainger claimed that the combination of a healthy construction market and a solid economy are keeping work pipelines flowing and bottom lines strong for metalworking operations.

But even the biggest business boom brings its own set of challenges. For its most recent annual Metalworking Industry Report, Grainger collected hundreds of online surveys from key stakeholders who shared their perceptions of prevailing business conditions, identified their biggest challenges and described changes that are impacting individual companies within the industry. Issues related to today's workforce appeared often in the responses.

According to the Grainger report, 59% of metalworking firms said they're having a difficult time finding and retaining qualified employees, and 45% are struggling with competency levels in their workforce.¹ LIFT, a developer of advanced lightweight materials manufacturing technologies, reported similar findings in its own 2018 online article, *Help (Still) Wanted: Manufacturers Struggle to Fill Open Jobs*, LIFT cited a Plant Services magazine survey of more than 270 readers who were asked about their organization's biggest workforce challenges. More than 70% said finding skilled workers to fill open positions was their top challenge, far ahead of such issues as retention/turnover, planning to meet future hiring needs or managing different generations in the workforce.²

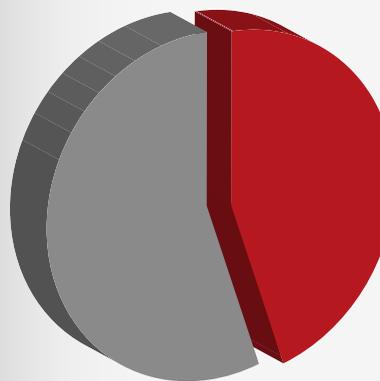
Clearly, employers in the metalworking industry are facing a variety of challenges related to adding workers in order to maintain or increase production levels. As unemployment rates remain low and companies often compete for the same

WORKFORCE ISSUES FACING TODAY'S MANUFACTURERS



70%
said **finding skilled workers** to fill open positions was their top challenge.

Source: LIFT.technology



45%
are struggling with **employee qualification and competency levels**.

Source: Grainger.com

candidates, it is becoming increasingly critical to find solutions to staffing problems. In this white paper, we will discuss some of the reasons why industrial production operations face a growing shortage of skilled workers. We will also describe how automated conveying, scrap processing and fluid recycling equipment can minimize the impact of this issue while also adding considerable value in other areas.

5801 East N Avenue, Kalamazoo, MI 49048
1-800-968-7722 | sales@prab.com

prab.com

PRAB
a  Global company

REALLOCATING LABOR IN THE METALWORKING INDUSTRY

THE CHALLENGE

Industry experts and observers offer several explanations for the increasing amount of open metalworking positions as well as the shrinking number of qualified candidates available to fill those positions. Among the most significant are:



An Aging Workforce

Citing Forbes magazine as a source, the Arizona Republic reported that more than half of the existing skilled labor pool in job categories such as machining consists of workers aged 45 and older.³ Other sources like American Machinist put the number at 72%.⁴ The physical demands of these industrial production positions make it increasingly challenging for older employees to remain in the job market as they approach retirement age. So, they exit the workforce and create vacancies. Although younger entrants into these fields may accept lower pay, that cost savings often comes with a comparative lack of experience that many production operations find unacceptable.



A Perception Problem

The St. Louis Post-Dispatch reported in 2017 that factories are able to find plenty of people for grunt jobs, such as lifting boxes and sorting parts. They are having much more difficulty finding hands-on machinists, CNC machine operators, toolmakers, industrial electricians, multi-skilled maintenance mechanics and other candidates for jobs that require aptitude in math plus a couple of years of schooling. This is an example of the perception that factory work still has an outdated, gritty image in the minds of many people who think the work environment in a metalworking operation is dark, dirty and dangerous. In reality, automation and computerized manufacturing have eliminated many factory jobs that require brawn in favor of positions that demand a more sophisticated skill set.⁵

The Grainger report listed several strategies that manufacturers are taking to face this situation, including the development of apprenticeship programs and college/tech school partnerships.¹ A 2018 article in the Springfield News-Sun reported that some manufacturing firms are boosting wages to compete for candidates.⁶ Harvey Tool Company, a provider of specialty carbide end mills and cutting tools to the metalworking industry, identified employed machinists as the best source to encourage today's youth to join the profession through community outreach and networking initiatives.⁷

These are all viable options to alleviate the problem. Another one mentioned in the Grainger report, staff reduction, could make the most business sense for metalworking operations that need to fill open positions while also ensuring that their current labor forces stay in place. One way to achieve this goal is to automate as many plant processes as possible so they require fewer workers to get the job done.

REALLOCATING LABOR IN THE METALWORKING INDUSTRY

THE SOLUTION

Scrap handling systems, fluid recycling equipment and industrial water and wastewater treatment solutions offer automation opportunities that not only address the staffing issue but offer other advantages that directly benefit the bottom line.



Automated Conveying Equipment

Handles the transportation of metal scrap from the point of production through load-out with a minimal amount of employee involvement. Conveyors also reduce the need to staff an operation with forklift truck operators. This helps eliminate one of the most strenuous manual tasks in a metalworking operation while improving the overall safety of the workplace. Both outcomes can contribute to employee attraction and retention while lowering labor-related costs.



Chip Processing Systems

Automate the process of reducing turnings and bushy wads to flowable, shovel-grade chips while separating scrap from fluid. These systems improve productivity by freeing up workers to focus on production and throughput. They also reduce the potential for dangerous contact with sharp metal material, minimize environmental risks and position an operation to receive maximum value from scrap metal recycling and reusing spent coolant. Vertical axis crushers, for example, maximize labor allocation by providing continuous, positive feed operation and automatically removing occasional solids to prevent equipment damage.



Tramp Oil Separators

Automatically remove free-floating and mechanically dispersed tramp oils, bacteria, slime, inverted emulsions and more from individual machine sumps, central systems and wash tanks. This equipment eliminates the need to have employees manually vacuum oil from the rinse tanks or machine sumps, and is capable of reducing tramp oil to less than 1% in a single pass. Additional benefits include reducing new fluid purchase costs up to 75% and reducing hazardous waste volumes up to 90%.



Mechanical or Automatic Hydraulic Dumpers

Help simplify the process of unloading carts with efficient one-person operation that involves using a hand-held control to operate the equipment.



Load-out Systems

Complete the scrap handling process by moving metal scrap to distribution bins for haul-away to the recycler. These systems provide efficient, automated, and even filling for maximum container fill and maximum value from the recycler.

Modern equipment in each category (conveying, scrap handling, fluid recycling and water/wastewater treatment) is also designed to deliver maximum uptime with low maintenance. This eliminates the need for an operation to be overstaffed with maintenance technicians and also helps ensure that employees are as productive as possible.

Conclusion

Productivity improvements in today's manufacturing plants and machine shops are typically derived from the evaluation of the machining equipment, operating procedures, and labor allocations associated with process-side activity. Continuous improvement in this area should also include waste streams, which offer several opportunities to address an increasing problem in the industry: staffing a plant with a skilled workforce. To keep a production line flowing safely and efficiently, it is important to remove the human element at every possible turn—not to put people out of work but to retain qualified employees and minimize the impact of a shrinking workforce.

Ineffective processes that are labor-intensive and require constant attention can only inhibit an operation as business continues to ramp up, consistent with industry predictions. Working with an experienced equipment and systems provider to automate systems throughout a process can help metalworking plants thrive in an environment where attracting and retaining qualified employees continues to be a challenge.

REALLOCATING LABOR IN THE METALWORKING INDUSTRY



About the Author

Mike Hook is the Sales & Marketing Director for PRAB and has more than 15 years of mechanical design and application experience. PRAB is a leading manufacturer of engineered conveyors and equipment for processing turnings, chips and metalworking fluids. PRAB also designs and builds industrial wastewater recycling systems.

Sources:

- ¹ Grainger, *Metalworking Today: Three Trends to Watch* - <https://www.grainger.com/know-how/industry/manufacturing/kh-metalworking-industry-trends-to-watch.html>
- ² LIFT, *Help (Still) Wanted: Manufacturers Struggle to Fill Open Jobs* - <https://lift.technology/help-still-wanted-manufacturers-struggle-to-fill-open-jobs/>
- ³ Arizona Republic, *Staffing Challenges in Production Operations* - <https://yourbusiness.azcentral.com/staffing-challenges-production-operations-29227.html>
- ⁴ American Machinist, *What Happens When the Baby Boomers Retire?* - <https://www.americanmachinist.com/shop-operations/what-happens-when-baby-boomers-retire/>
- ⁵ St. Louis Post-Dispatch, *St. Louis Area Factories Say They Have Plenty of Work, But Not Enough Skilled Workers* - https://www.stltoday.com/business/local/st-louis-area-factories-say-they-have-plenty-of-work/article_8a095652-4795-5244-a3e1-80da37d4bfa4.html
- ⁶ Springfield News-Sun, *Companies Increasingly Competing for Workers* - <https://www.springfieldnewssun.com/news/local/companies-increasingly-competing-for-workers/DnbVt3E7pw5o72WDa73g0H/>
- ⁷ Harvey Tool Company, *3 Ways to Help Solve the Machinist Shortage* - <https://www.harveyperformance.com/in-the-loupe/3-ways-solve-machinist-shortage/>

About PRAB

PRAB is a leading engineer and manufacturer of conveyors and chip and fluid management systems. Its customized solutions automate metal handling, reduce labor costs, reclaim and recycle expensive cutting fluids/coolants, and maximize return on recycling metals. With its expertise honed by more than 4,500 installations for the world's leading OEMs and suppliers, PRAB continuously improves material handling, housekeeping, and compliance to environmental rules and regulations within the automotive, aerospace, medical, electronics, defense, off-road, and energy markets. For more information about PRAB, visit prab.com.

5801 East N Avenue, Kalamazoo, MI 49048

1-800-968-7722 | sales@prab.com

prab.com



a  Global company