

## **Bridging the skills gap: where's the good news?**

Despite a boom in innovation and technology solutions, they do not in and of themselves overcome a seemingly insurmountable obstacle: the skills shortage in American manufacturing, which will see Baby Boomers exiting the workforce at numbers greater than 10,000 per day over the next decade.

**Herein, Jon Iverson, CEO at OPTIS discusses the company's recent qualitative research into the state of American manufacturing, to examine the current mood, and predictions for the future.**

One respondent to OPTIS' research called on a revealing new report (Skills Gap in U.S. Manufacturing survey) on the growing skills gap in U.S. manufacturing, which revealed that a substantial 82% of manufacturers have a moderate to severe shortage of available, qualified production workers, with 64% noting that workforce shortages and skills deficiencies in production roles are having a significant impact on their ability to expand operations or improve productivity.

Although manufacturers are helping educators establish training programs for prospective employees, this effort, even combined with manufacturers' internal apprenticeship programs, may sadly be too little too late.

There is increased collaboration between education and industry to deliver the targeted training that will improve workforce skills. Working with manufacturing stakeholders, several organizations are attempting to proactively lead the way by delivering the model solution for other schools. Schools are working closely with manufacturers and workforce professionals to improve employability and industrial performance.

Hands-on training curriculum and interactive exercises may allow manufacturers to train the specific skill sets required in a modern manufacturing facility. However, because there is such a demand for skilled manufacturers, machinists, welders, CNC operators, and more, the likelihood of employees remaining with manufacturing employers who funded the training is low. After years and significant training investment per employee, the chances are that skilled labor will defect for the highest wages offered.

Due to the near-extinction of trade schools and advocacy of a four year college degree, the pool of prospective manufacturing workers is pitifully low and is likely to remain so for the next decade. There is high demand for these workers and little supply.

One respondent addressed the problematic skills gap in testimony before Congress. "It's amazing to me the effort we have to go to just to get people hired," he told the House Small Business Committee during a hearing on small manufacturers. To find qualified folks who are trainable is nearly impossible. For one specific job opening, it had taken about four weeks to put together a list of potential candidates. Unfortunately, twelve of the fifteen interviewees scheduled did not even bother to turn up.

### **Optimism for the future**

Looking forward, there is mostly good news. Despite the very real concern of the skilled worker shortage, most interviewed for the report were encouraged about the future of American manufacturing over the next decade.

One respondent said the one thing that can make U.S. manufacturing more competitive and ensure a sustainable future included “model-based part definition” (where parts are designed and tolerances are automatically imbedded in the model). He also suggested contract worker collaboration with the looming labor shortage would be improved by using engineers around the world to help design or part programming, as long as cyber security and ITAR (International Traffic in Arms Regulations) requirements are resolved.

Automation will take care of more of the ‘routine’ and repetitive tasks, freeing up personnel time to concentrate on more intricate, complex and individualized procedures. If ‘the machine’ can increasingly take care of previously straightforward, but time consuming, operational roles – fewer operators can obtain additional skills and increase their knowledge to provide more impact on the manufacturing processes. This will be increasingly important as manufacturers reshore to the United States, bringing more demand for operators and further impacting the skills shortage.

However, this demands a greater integration of man and machine. ‘Tribal’ knowledge from current operators needs to be “trained” into machines, to require less human intervention to make the future machine tool more self-sufficient.

### **Final thoughts**

It was also felt that what makes American manufacturing best is training and qualification. The era of union against company is over. One team with qualified and trained people will find the BEST solution to stay competitive against low cost manufacturing.

Improvement must focus on two fronts: in the management of both the manufacturing process, and in the supply chain and procurement process. In today’s increasingly Lean or Smart manufacturing environment, organizations may feel they have reached a point where they’re as Lean as they can be. But applying the principles and methodologies of Lean within an increasingly advanced manufacturing environment will pave the way for America’s manufacturers to take full advantage of the opportunities of new technologies.

To download the full research report from OPTIS, which discusses Post-2008 recovery, outsourcing, quality, and the supply chain, onshore outsourcing elements, a look back at technology transformation and innovation and investment in manufacturing, please visit <https://goo.gl/1Lgoaa>.

### **Jon Iverson, CEO, OPTIS: Biography**

With a highly successful 20-year career in the United States Navy, Jon Iverson has extensive experience in machining, manufacturing, and defense services. Jon has led Enterprise-Wide Lean Transformations across complex organizations up to 4,500 personnel. Jon is a certified Lean Manufacturing Black Belt and Theory of Constraints Jonah.