

**The Lean Economy...Linking Education to Economic Prosperity**  
**By Glenn Marshall, Newport News Shipbuilding Career Pathways Program**



In an era in which education and training has never been more important for the economic prosperity of individuals and the country, the U.S. has fallen behind many other nations in educational attainment and economic achievement.

By 2020, 65 percent of [all jobs](#) in the economy will require postsecondary education and training beyond high school. The United States will fall short by 5 million workers with postsecondary education—at the current production rate—by 2020.

Eighty percent of industry executives reported they are willing to pay more than the market rates in workforce areas reeling under a talent crisis. Still six out of 10 positions remain unfilled due to the skills shortage. For every [manufacturing job](#) there are 3.4 full-time jobs created elsewhere in the United States to support manufacturers' efforts

In 2015, the [average manufacturing worker](#) in the United States earned \$81,289 annually, including pay and benefits. Workers with associate's degrees in Science, Technology, Engineering and Math (STEM) fields out-earn 63 percent of people who have bachelor's degrees in other fields, according to the [Georgetown University Center on Education and the Workforce](#).

Students and parents need to take into consideration the cost and the return on the investment of the different levels of a postsecondary education degrees and credentialing will afford them. In fact, [27 percent](#) of people with post-secondary licenses or certificates—credentials short of an associate's degree—earn more than the average bachelor's degree recipient.

### **The Challenges**

Parents and their students do not view working in manufacturing as an acceptable career path. As more emerging good paying manufacturing jobs are becoming available, most parents still want their kids to get a college degree and get a white-collar job.

The US has the world's most extensive and sophisticated higher education system, yet top executives warn of a crisis in the science, technology, engineering and math disciplines considered to be at the core of global economic competitiveness.

While half of students who graduated high school in 2014 took the ACT "The Condition of College & Career Readiness". Only 26 percent met college readiness benchmarks in all four subjects: English, reading, mathematics and science.

## Learning That Works

Executives indicate that engaging with local schools and colleges in science, technology, engineering, and mathematics initiatives and [skills certification programs](#) can close the skills gap. Career and Technical Education (CTE) programs plays a vital role in helping American businesses close the skills gap by building a competitive workforce for the 21st century.

Senator Rob Portman (R-Ohio) and Senator Tim Kaine (D-VA) who co-chair the U.S. Senate CTE Caucus are leading a bipartisan initiative for increasing the emphasis on the career readiness of students. Senator Kaine said, “CTE is an important pathway for students to prepare for the workforce by integrating practical applied purposes with work-based knowledge and a hands-on learning experience.”

CTE balances the pull between the practical and theoretical by applying academic knowledge to real-world problems, preparing students for a wide array of careers. The average high school graduation rate for students concentrating in CTE programs is [93 percent](#) compared to a national adjusted cohort graduation rate of 80 percent.

A proven model for Career Pathways is Newport News Shipbuilding (NNS) in the partnership with Hampton Roads Public Schools (Virginia). This program reaches out to students who are mentored by over 300 NNS volunteers and gives them opportunities to experience future careers choices. In addition, NNS holds its annual [Manufacturing Day](#) event. This event invites school administrators, teachers, and students from area high schools to learn about manufacturing behind the shipyard gates and the career opportunities it can provide to help recruit the next generation of shipbuilders.

## Linking Education to Economic Prosperity

In many cases, earning power is more a [function of occupation](#) than degree level. Workers with just a two-year degree can out-earn graduates of four-year universities who go into less lucrative fields.

Occupations in STEM jobs will continue to grow—the center estimates that careers in the field will make up about 5 percent of all jobs by 2018, but demand for STEM skills in other fields has skyrocketed. STEM competency has become a "foundational skill" for those looking to go into upper management. This causes a divergence in STEM talent—people with STEM degrees go into lucrative careers in finance or management.

Regardless of occupation, people with a bachelor's degree in a STEM major make roughly \$500,000 more over their lifetimes than non-STEM majors. STEM wages jumped 31 percent over the past 30 years, compared with 23 percent for all non-STEM occupations.

The Reshoring Initiative President, Harry Moser states “A strong skilled workforce is key to bringing jobs back home and manufacturing growth. Similarly making reshoring’s success visible is key to motivating recruitment of the next generation of skilled workers.”

By investing public and private dollars wisely in deploying an educational and economic strategy to graduate on time skilled career-ready citizens and retooling the existing workforce. And, by bringing young people, parents, educators, manufacturers, and policy-makers together to focus on replenishing the nation’s talent pipeline for maintaining a middle class lifestyle.

Making “Made in America” and the “American Dream” a reality again by returning to our educational and manufacturing roots to enable the designing and making things at home, again!

Glenn Marshall Newport News Shipbuilding retired *Career Pathway* volunteer in cooperation with *Association for Manufacturing Excellence* and the *Reshoring Initiative* are focused on retaining and bring jobs back home by sharing best practices to close the nation's skills gap and making organization more productivity. For more information on these initiatives, contact Glenn at [marsh8279@aol.com](mailto:marsh8279@aol.com).