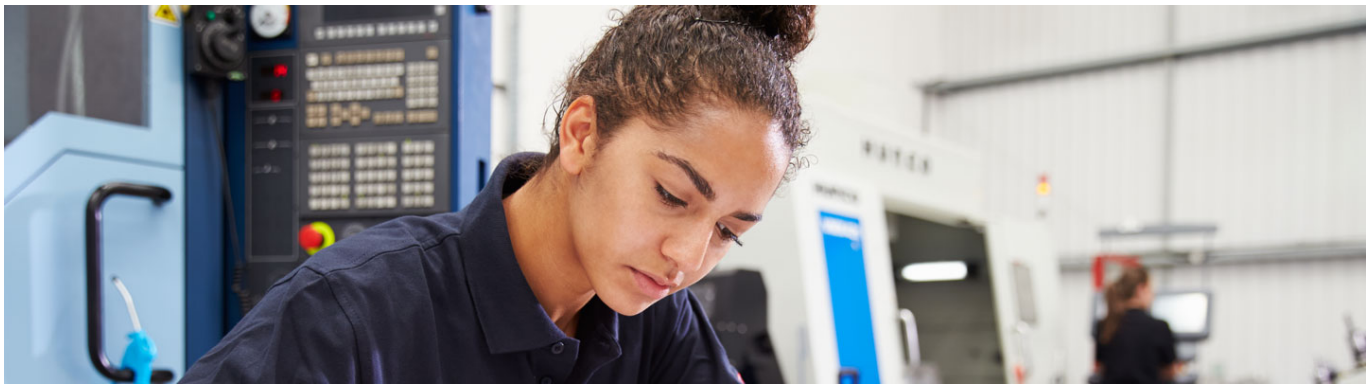


Skills Gap

Charting Manufacturing Career Pathways for Gen Z and Beyond

Don Sears | Apr 02, 2019

What gets future manufacturing workers excited? They want to learn new things, attain and prove competency quickly, and use the latest technology. They also like to know their earning potential.

It's not about a specific job title or role that attracts today's manufacturing worker: It's the ability to have options. These up-and-coming generations are not necessarily interested in working for the same company for 30 years doing the same exact thing, says Denise Ball, a workforce development specialist at Tooling U-SME.

"They want to grow quickly—and want clear, well-defined paths where competencies and new skills are matched with validation," says Ball. "They are not looking for the gold watch. They want to feel valued."

Validation can help retention, explains Ball. So companies have to adjust job titles and career paths to help these workers see a career development path that reflects the value they can bring and a clear, competency-based way to reach it.

"I joke and say they (the newer generations) want to be plant managers in two years—and the manufacturers I work with laugh," says Ball. "These generations like challenges and climbing levels like they do in video games, and they love to learn on their own, but they want validation and structure."

Manufacturer Career Pathways Are Adapting to the Next Generation

Ball uses a few metaphors: highways where there are on-ramps and off-ramps, and "career trees" that have short branches that lead to other branches. These are good illustrations of ways in which manufacturers can think about designing career paths.

"If you are going for sustainability in manufacturing, the key is access to a talented workforce—and keeping the ones you have," says Ball.

She's seen some companies change the kind of language they use in job descriptions for machining work to attract "innovators" and "entrepreneurs," because ***new workers want to feel they are part of a mission*** to solve problems and shape things for the future. It's a much different approach than past

generations.

“Manufacturers are shifting their mindsets,” says Ball. “They are casting a vision, and there is no doubt to me that the job roles will change with the different groups ... Companies are now having to prepare for Gen Alpha—the group that is born after 2011.”

Companies also are having to adapt to a world where workers are not afraid to move on. Ball cites a 2017 Work Institute study that found 22 percent of workers quit jobs because of a lack of career development.

“It used to be that managers were at the top of the list of reasons for leaving a job,” says Ball. “But quitting due to a lack of growth is a big change—and manufacturers are waking up.”

The ***2018 study*** by the Work Institute found the same pattern as the previous year: 21 percent left jobs because of a lack of career development. In fact, the study states it was the “eighth-consecutive year this category has led reasons for turnover.” In an age of low unemployment, career development is a trend that can’t be ignored.

Learn more about today’s workers. Read “They’re Already Doing It: The Millennial Machinists Helping the Skills Shortage.”

Don’t Sleep on MFG Day

“We call ‘Manufacturing Day’ our second Christmas,” says Jose Anaya, dean of community advancement at El Camino College.

MFG Day, as it is commonly referred to, is an excellent way for manufacturers to attract and find new talent to invest in—and show off the technology they use in their shops.

These multiday events at local manufacturers every fall are incredibly helpful and mutually beneficial to interested parties. They’re a great way to expose today’s advanced manufacturing technology— including working with robots and cobots—and 3D printing or additive manufacturing to students.

MFG Day begins on the first Friday in October every year and has been running since 2012.

Sponsored by the National Association of Manufacturers, there were nearly 2,100 MFG Day events in 2018 that engaged roughly 200,000 students.

Focus on Advancements in Industrial Technology: Robots, Cobots, 3D Printing and Airplanes

But what specifically gets student generations excited about manufacturing right now?

“Making things such as robots, participating in maker camps or working with 3D printing,” says Jose Anaya, dean of community advancement at El Camino College in Los Angeles. Anaya is a former mechanical engineer.

Working closely with local high school juniors and seniors—and those already in college—Anaya helps attract new machining and programming talent into the aerospace-rich pipeline of the South Bay through maker fairs and annual events like MFG Day, which happens every fall.

Anaya arranges company visits and creates an interactive program where students can make something to take home—usually something they design and can etch with a laser. It allows them to see, touch and leave with something tangible to remember.

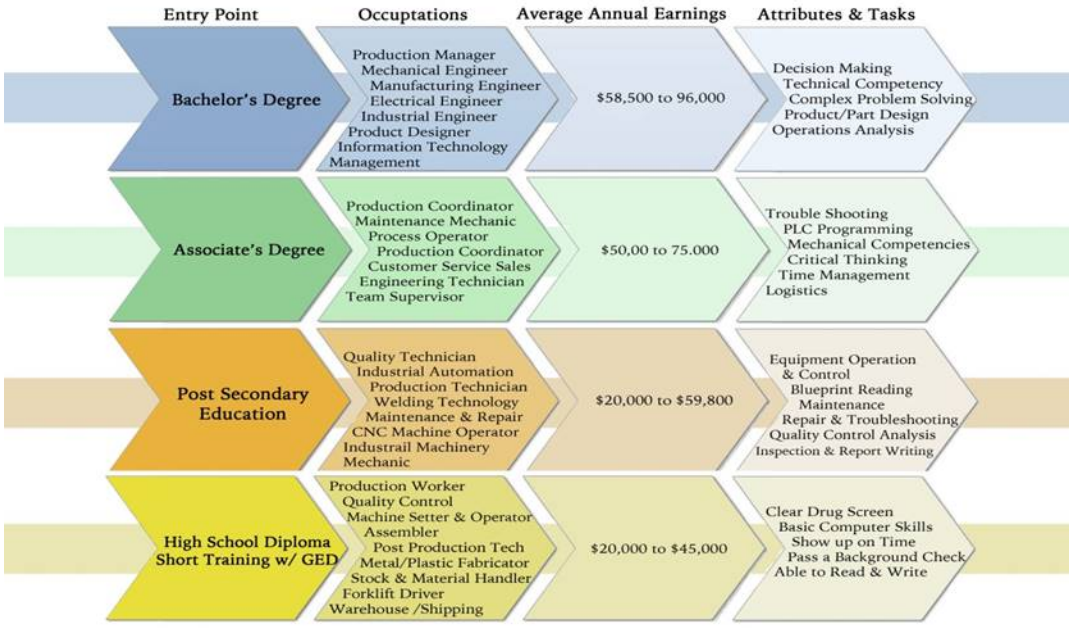
"Many students love this part of it," says Anaya.

Anaya also believes that helping them understand the earning potential in manufacturing is meaningful.

"I recently visited one manufacturer where a student asked the plant manager about salaries," says Anaya. "And the manager pointed to a machinist and said, 'See that man right there: He makes more than me.' And the student was blown away." With the right skills and experience—and the opportunity for overtime pay in some of these machining jobs—making $80,000 to $100,000 a year is possible.

Learn more about the state of salaries and hourly pay in manufacturing today.

Anaya's local aerospace manufacturing base has some of the most attractive salary ranges for experienced machinists in the country—with an average of about $92,000 a year, he says. And his students or prospective high schoolers like knowing there's the potential for growth, especially for those students who show an affinity for designing and working with machines to create things.



Source: California Community Colleges

There are also other key roles in manufacturing, including the mechanical engineers who design parts, products and tools—but have to understand how things are built on today's machines.

Steven Sheffield is the machine shop manager at the Georgia Institute of Technology, and he works closely with future engineers. He's been at the school for 22 years—but has over 34 years of machining experience—so he has seen many changes with students and the manufacturing industry.

"The biggest change is accessibility to information," he says. "If you really want to learn how to build a machine, it's never been easier. They've grown up with technology access."

The other big change: the shop itself. Today's shops are well-lit, clean and full of cool technology and

toys to play with.

“The maker movement is not new,” says Sheffield. “It’s just rebranded for today’s generation … I see students excited about building robots for competition—some who are trying to get on the *BattleBots* TV show.”

New Concentration on Manufacturing Apprenticeship Programs: Earn and Learn

From apprentice and pre-apprentice programs to two-year technical college degrees and cooperative models, there are many ways for interested students to gain knowledge and competency.

To help meet the needs of manufacturers and students, earn and learn ***apprenticeship programs*** are really ramping up. El Camino College, for example, is recruiting for the fall and there are more prospects than spots. It has three tracks: machining, electronics and engineering technology (CAD/CAM, modeling and analysis).

Most of the roles are in aerospace—and students can begin to earn $15 an hour with progression from there every six months based on the employer’s structure. But they don’t earn a degree—it’s a certificate. Once in the apprentice program, students are working most of the time and only taking three courses a year. The students have to master the skill sets in a set amount of time to progress.

“There’s a 91 percent retention rate for apprentices,” says Anaya. “The companies are investing in the person and developing a very skilled technician, under very structured guidelines.”

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