

# The Workforce Dilemma

Companies struggle to attract and train qualified employees, while job seekers bemoan the lack of solid career options. How can the composites industry bridge the gap?

By Susan Keen Flynn

**G**ary Miller of SGS Tool Company recalls interviewing a high school student for an internship several years ago. “When I asked him to tell me about himself, he slouched down in his chair, crossed his arms and said, ‘I’m cool,’” says Miller, director of training and occupational development for SGS, a manufacturer of high-performance cutting tools for composites, aluminum and titanium. “I waited because I hoped he was going to tell me what he was cool at, but he never did.”

Rather than abandon the idea of hiring interns, Miller decided to help prepare students for the workforce. He reached out to local high schools with machining programs and offered tutorials. Now he visits classes, teaching students everything from how to write a resume and prepare for an interview to how to read micrometers and perform simple shop mathematics.

For the past seven years, SGS Tool Company has hired one or two interns each year. But that’s really a side benefit of his community outreach, says Miller. “We’re not in there to push the SGS brand, nor am I going to classes to recruit. I am preparing these kids for any manufacturing career,” he says.

Attracting and training the next generation of workers is a challenge for manufacturers, including those in the composites industry. By 2025, there will be two million jobs available in U.S.



Carlos Rodriguez (left), mold detail supervisor at JRL Ventures/ Marine Concepts, shows new employee Jonathan Sanchez proper sanding technique in detailing of a deck mold.

manufacturing, according to the U.S. Commerce Department’s Hollings Manufacturing Extension Partnership (MEP). But 84 percent of manufacturers report a moderate to severe shortage of available, qualified workers.

“In the last five to seven years, workforce development has become a really big issue with smaller companies – those under 500 employees,” says Mary Ann Pacelli, manager of workforce development for MEP, which is part of the National Institute of Standards and Technology. “They recognize that not having the right talent is really holding them back.” Since its inception in 1988, the MEP nationwide network has helped create and retain more than 797,000 jobs. (See the sidebar on page 22 for more on MEP.) But individual companies are doing their part, too. Here’s a look at efforts undertaken by four firms in the composites industry to find and train future workers.



## Partnering with Workforce Agencies

**Company:** JRL Ventures/Marine Concepts

**Headquarters:** Cape Coral, Fla.

**Employees:** 268

**Measure of Success:** Less than 2 percent employee turnover

When JRL Ventures/Marine Concepts began partnering with workforce development agencies in Florida approximately 10 years ago, the state wanted to fund training for college, trade school and high school programs. So, for example, it would support a lamination course at a vocational school. The idea seemed sound, but there was a practical problem.

“As businesses, we can’t supply the schools with a flow of candidates on a regular basis,” says Matt Chambers, president of JRL Ventures/Marine Concepts and a member of ACMA’s Board of Directors. “The economy fluctuates, and we need a lot of employees. It fluctuates again, and we need less people. So the program didn’t go well.”

There was another issue with the instruction model: It utilized a uniform approach ill-fitted to composites training. “It’s not like a welding course. Anybody can go to a trade school, learn how to weld, then go to a company and weld,” says Chambers. “When you’re dealing with composites, it’s much different. I may do a 6-ounce skin coat and infusion and light RTM, but another company does 12-ounce skin coats using a resin with different characteristics. Each of us have our trade secrets, and you can’t send somebody to school to learn them.”

So Chambers and his peers in the boatbuilding market convinced Florida’s workforce development community to flip the training model on its head. They asked that funding focus on in-house training at the manufacturing companies. “We offered to develop our own programs and train employees, using our suppliers and our expertise,” says Chambers. The state agreed.

Four years ago, JRL Ventures/Marine Concepts began receiving state grants for in-house training through CareerSource Florida, a network of career development professionals that work with employers to find talent. New employees are vetted by CareerSource Suncoast and CareerSource Southwest – the two non-profit organizations the company works with – to ensure they meet requirements of the state and local government. Then the employees participate in training at the manufacturing company on a range of topics, including safety, composite skills and self-responsibility. “It covers everything you need to be an employee in *our* facility, not a generic employee,” says Chambers.

JRL Ventures/Marine Concepts receives \$2,000 per employee for training. The grants cover all of the company’s training costs and about 20 percent of the total cost of hiring a new employee. “It makes it feasible – and financially motivating – to train employees,” says Chambers.

JRL Ventures/Marine Concepts began the workforce development program in 2012 when it opened its second facility, a 300,000-square-foot plant in Sarasota, Fla. The company initially planned to hire 25 to 45 new employees in Sarasota. The program was so successful that the company ended up with approximately 125 employees.

Chambers encourages composites manufacturers to reach out to their local workforce development agencies for guidance. “They will help and mentor you,” he says. “There’s not a more important part of your business than the people portion. If you don’t have time to spend training your people, then your business will not grow.”

## Offering an Apprenticeship Program

**Company:** MPM

**Headquarters:** Leeds, England

**Employees:** 22

**Measure of Success:** Total sales and number of employees have doubled in five years

Six years ago, MPM recruited Jonny Haley as an apprentice. Today he is a production leader at the manufacturing company and winner of the 2014 Employee of the Year Award from industry trade association Composites UK.

MPM hires two to three apprentices each year, “some with good success, some with not-so-good success,” admits Ben Wilson, managing director of MPM. But the company remains committed to its apprenticeship program, and employees like Haley highlight its potential. “We strongly believe in apprenticeships as a way of building the skills of potential future employees,” says Wilson. “We are always looking for young recruits who have energy, enthusiasm, commitment, a great work ethic and an ability to work in a team.”

MPM recruits its apprentices from various organizations. One was hired through Talent Match, a program of the Leeds-based charity Ahead Partnership that helps find meaningful jobs for people between 18 and 24 years old who have been unemployed for at least a year. MPM’s newest apprentice, Connor Dockerty, was recruited through The Works Charity, which helps line up vocational training for young people. Dockerty began working as a production operator and hand laminator in January. “He has already made fantastic progress with skill levels, flexibility as a team member and his efficiencies,” says Wilson.

Apprentices receive on-the-job training as either a production operator or finishing operator, working side-by-side with an employee on the shop floor. “With composites, there’s only so much you can learn from theory books and in classes,” says

Wilson. “Production and hand layup require learning by doing.”

During the one-year program, apprentices can earn levels 2 and 3 of the National Vocational Qualifications (NVQs) – a level system of work-based awards in the United Kingdom ranging from Level 1 (basic work activities) to Level 8 (senior management). “We look forward to the official Composites NVQ, which is currently being put forward by government bodies,” says Wilson.

After a year, MPM hopes apprentices opt to become full-time employees of the company. According to the Skills Funding Agency, a government entity in the United Kingdom, 71 percent of former apprentices stay with the employer. Three of the apprentices MPM has trained since 2010 are now in skilled positions with the company, including 26-year-old Haley in a leadership role. (The United States also has an apprenticeship program – ApprenticeshipUSA, offered through the Department of Labor. For information, visit [dol.gov/apprenticeship](http://dol.gov/apprenticeship).)

Wilson credits part of the reason for the success of MPM’s apprenticeship program to the hiring of a full-time, on-site advisor to ensure the participants get the support, training and development they require. “[Workforce development] is not easy. It takes commitment and consistency,” says Wilson. “It’s about creating opportunities.”

## Nationwide Network Helps Manufacturers Thrive

**M**anufacturing has an image problem. According to the Hollings Manufacturing Extension Partnership (MEP), 90 percent of Americans believe manufacturing is important for a strong national economy. Yet only 37 percent of parents encourage their children to enter manufacturing and a mere 18 percent of people view manufacturing as a top career choice. One of MEP’s goals is to change the perception of manufacturing and attract a skilled workforce.

Founded 28 years ago, MEP is a nationwide network of independent centers that provide services ranging from innovation strategies to process improvements and workforce development. MEP centers are located in every state. These centers are a great place to start for help with workforce development. (You can find the one nearest you by visiting [nist.gov/mep](http://nist.gov/mep) and clicking on your state on the map.)

“Manufacturing is an important part of our economy,” says Mary Ann Pacelli, manager of workforce development for MEP, which is part of the National Institute of Standards and Technology. “We need the best and the brightest going into the industry.” She offers several suggestions to composites companies on attracting and training employees:

1. **Create** a “talent plan.” Think about the skills your company will need in the next one to three years, then develop a strategy to obtain those skills. What can you develop in-house? Where can you find those skills on the street? “Recruiting starts with developing better job descriptions and knowing what you’re going to do with people once you bring them in,” says Pacelli.
2. **Engage** with local high schools and vocational schools. “You can take high school students at the

end of their junior year and give them a meaningful internship,” she says. “They may continue on to community college while working for you part-time as a technician.”

3. **Reach** out to workforce organizations. There are hundreds of state and local organizations that connect companies with job seekers. Ask your MEP center for referrals to such organizations, or check out Career One Stop at [careeronestop.org](http://careeronestop.org).
4. **Train** your trainers. “Companies that are looking to upgrade their existing workforce need to get better at structured, competency-based, on-the-job training,” says Pacelli. “It’s more than just putting Sue with Joe. Companies need to be better at training the next person who comes in because 80 percent of most training happens on the shop floor.”
5. **Connect** with your industry association. “There’s always going to be a disconnect in generic education. Schools can’t train for your company,” says Pacelli. “Companies have to accept that and connect with groups such as ACMA, which offers tremendous education.” Learn about ACMA’s Certified Composites Technician (CCT) program at [acmanet.org/cct](http://acmanet.org/cct).

“We can make manufacturing exciting again by talking about lightweight materials like composites and cool technologies like additive manufacturing,” says Pacelli. “We can inspire the next generation.”

# Creating a Custom Training Program

**Company:** Miles Fiberglass and Composites

**Headquarters:** Clackamas, Ore.

**Employees:** 62

**Measure of Success:** All employees will be cross-trained within two months

For years, the standard method of training new employees at Miles Fiberglass and Composites had been to rely on “tribal knowledge,” says Justin Luchak, quality assurance/training facilitator at the company. “If we were training somebody in the finishing department, we would just pair the new employee with an experienced one and say, ‘Teach him everything you know.’” The problem was there were no lists to check off indicating the new employee learned the necessary tasks, no test to indicate he or she mastered those tasks and no guarantee that the trainer was adept at instruction.

Last fall, Miles Fiberglass embarked on creating a new training process and career pathways for employees with the help of the Oregon Manufacturing Extension Partnership (OMEP). The OMEP – the state’s sanctioned MEP center – is a non-profit organization that helps small and mid-sized Oregon manufacturers thrive. Lori Miles-Olund, president of Miles Fiberglass, is a member of OMEP’s Board of Directors. When she heard about the organization’s new training program, she immediately signed up the company. “It’s one of the few training programs I’ve seen that

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## “There’s not a more important part of your business than the people portion. If you don’t have time to spend training your people, then your business will not grow.”

– Matt Chambers, JRL Ventures/Marine Concepts

fits us well because it’s customized,” says Miles-Olund.

Since November, Luchak has met two mornings each week for four hours with a consultant from OMEP. They began by reviewing all the processes at Miles Fiberglass, such as hand layup, finishing and mold maintenance. They analyzed all the tasks related to each process, then created job modules that lead employees step-by-step through each task. “The modules provide about 30 minutes of training,” says Luchak. “So if a layup process takes two hours, then there are four training modules.”

For instance, one of the job training modules covers how to set up the chopper gun. The module includes detailed instructions for each of the following steps: getting parts for the gun, setting up the tip, installing the tip onto the gun, setting up the motor, setting up the pressure and opening the valves, and calibrating the chopper gun. In addition, the module includes labeled photos of all the chopper gun parts and the gun set up.

As of March, Luchak had created eight modules for layup and finishing. He had begun work on three other modules – shop orientation, safety procedures and 5S procedures (the company’s quality program). “It’s very time-consuming, but I really think it’s going to pay off in the end,” says Miles-Olund. The training method will ensure everyone is trained consistently and correctly, and it will help with lean manufacturing.

Miles Fiberglass began expedited training in March for current employees. They train in groups of three once a week for 45 minutes. Everyone on the plant will be cross-trained on both layup and finishing. “Cross-training allows us to manage our employees better and move people around when one area is slow,” says Miles-Olund.

When the company rolls the program out to new employees, training will be conducted one-on-one – by trained trainers – in 30-minute increments. New employees will receive laminated copies of each training module as a reference. The trainer will walk through the steps of each task, let the employee perform the

task under his or her supervision, then give the employee time to practice it. The new employee will then be evaluated and signed off for that module. Luchak will maintain an Excel spreadsheet that indicates who has been trained on what modules.

Once all the training modules have been developed, Luchak will begin creating career pathways for employees. “The modules are the nuts and bolts of the training program,” he says. “Career pathways provide a big picture for employees, showing them where they can go in the company and giving them a map to their success.”

In addition, Miles Fiberglass and Composites continues to encourage employees to enroll in ACMA’s Certified Composites Technician (CCT) Program. “Our new training method goes hand-in-hand with ACMA’s CCT exam,” says Miles-Olund. “It serves as a knowledge module that complements our technical, hands-on modules.”

## Investing in Interns

**Company:** SGS Tool Company

**Headquarters:** Munroe Falls, Ohio

**Employees:** 230

**Measure of Success:** Average employee tenure is 14 years

**S**GS Tool Company casts a wide net for interns. It recruits young people from local high schools, students enrolled in certificate programs at Stark State College and undergrads from the University of Akron. The company also is flexible in its internship structure, tailoring opportunities to the student rather than pigeonholing students into a rigid program.

A business major from a New Jersey college called the company asking if she could spend a week working at SGS unpaid during her spring break. Gary Miller, director of training and occupational development, agreed and developed a custom 5-day training program for her. “If she’s willing to donate her time, I’m going to support her as much as possible,” he says.

Another came from the Schnee Learning Center, a school in Cuyahoga Falls, Ohio, for at-risk students. Miller met the student while leading a tutorial at the school, which included administration of the pre-employment Bennett Mechanical Comprehension Test for technical and industrial occupations. The young man scored so high on the test that Miller offered him an internship in the company’s prep department. The student quit his part-time job at a fast food restaurant, joined SGS and has since been hired full time in the apprenticeship program.

One incentive that SGS offers interns who stay with the company is financial assistance with college. The intern from the Schnee Learning Center now attends Stark State College, where he is working toward Journeyman Tool Maker Certification. SGS pays for his tuition, books, parking and mileage to and from the college. Once the employee earns his certificate, he can work toward an associate’s degree in applied industrial technology. He will receive



James Kilbane, an apprentice at MPM in Leeds, England, does hand layup on a bathtub panel.

100 percent reimbursement for any class where he earns an A.

SGS invests in its interns, but not all of the expenses come out of the company's pocket. The tool manufacturer partners with several government agencies and advocacy groups to obtain grants for workforce development. For instance, SGS has an intern in its research and development department who attends the University of Akron. The company pays him \$14 an hour. But a grant from Ohio Means Jobs, Medina County, covers most of the wages, leaving SGS to fund a mere \$1.53 per hour. "There are so many grants that go unutilized," says Miller. "This is untapped money – well, others are not tapping into it, but we are!"

Miller encourages companies in the composites industry to get involved with organizations, such as their state MEP or local manufacturing advocacy groups. They can help companies find and train employees. He also recommends reaching out to local high schools and even middle schools to offer plant tours and participate in Career Day events.

"There's a human capital challenge right now," says Miller. "With so many people retiring, we'll lose a lot of our workforce in the next 10 years. By supporting schools and teaching kids about manufacturing, we're building our employee pipeline. We're developing our industry's future."

And a strong manufacturing industry is auspicious for everyone in composites.

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## ACMA Focuses Efforts on Workforce Development

ACMA has formed a steering committee to address workforce development activities in the industry and devise potential approaches for the association to lead such activities. "The more I talk to our members about finding, training and retaining good workers, the more I realize how much of an issue this is for our industry," says ACMA President Tom Dobbins. "It's not just shop floor workers either. It's at every level, from engineers to technicians in the plant."

Additionally, at CAMX 2015, ACMA and IACMI officially joined forces to help grow the composites industry. Part of the agreement entailed partnering on workforce development efforts, including the support and promotion of the ACMA Certified Composites Technician (CCT) Program. ACMA and IACMI are encouraging members of the composites industry to provide feedback to determine where specifically they should focus their efforts in workforce development and education. You can fill out a survey at [www.surveymonkey.com/r/IACMIWorkforceSurvey](http://www.surveymonkey.com/r/IACMIWorkforceSurvey).

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