

Closing the Digital Divide Requires Expanded Skilled Workforce

Multiple strategies are helping overcome the fiber workforce shortage that could slow broadband expansion.

By Bruce Forey / *BroadMax Group*

Feast or famine is how one hiring professional describes maintaining a workforce these days in the very robust fiber broadband industry. Driven by the stay-at-home orders of the pandemic, broadband sales continue to accelerate at an impressive pace. Leichtman Research Group (LRG) reported 4.8 million subscribers were added in 2020.

During the second quarter of 2021, the largest cable and wireline phone providers in the U.S. – representing about 96 percent of the market – acquired about 890,000 net additional broadband internet subscribers. Despite this positive trend, millions of Americans still lack access to fast, reliable internet.

Support dollars to close the digital divide in rural and urban areas and the reality that fast, reliable internet service is not a luxury but a necessity in the ever-connected world, is fueling the fiber broadband boom across all sectors of the industry. On the national level, programs such as the Rural Digital Opportunity Fund are helping fund the buildouts. The \$1.2 trillion Bipartisan Infrastructure Framework bill currently has \$65 billion dollars earmarked for broadband expansion. States and local municipalities are in the game with various forms of support dollars and incentives.

Like the race to connect the U.S. through the railroad system, the race to close the digital divide needs lots of workers to get the job done, sooner rather than later. Many positions in fiber network construction require a particular skill set for workers to be job-ready and minimize

mistakes. The skills aren't hard to acquire but are specific and often learned through some form of on-the-job training. There can be inconsistencies with that approach, particularly with standards and length of training.

FBA'S NATIONAL PROGRAM

The Fiber Broadband Association (FBA) – the industry's leading advocacy organization – announced in July the launch of a national program to address this need. The Optical Telecom Installation Certification (OpTIC) program is a curriculum designed by leading experts in the fiber community to quickly scale technical education, fill the existing fiber skills gap and accelerate fiber deployments across North America.

“We're at a historic high level of investment for broadband. With all that capex investment, you look at the workforce development, and you're going to grow,” says Gary Bolton, CEO of the FBA. “We saw a big hole in the industry – [a lack of] highly qualified fiber optic technicians. The FBA started to look at how we are going to get boots on the ground to get all this fiber deployed.”

The OpTIC program was developed by members of the FBA's Education Subcommittee and Deployment Specialists Committee. The group wanted a curriculum that taught standardized procedures required for today's fiber-to-the-home deployments, including fiber handling, splicing, testing, and premise



deployment skills. The idea is to offer students training through a local community or technical college, partnered with a service provider, to equip them with an industry-approved set of skills. OpTIC offers this knowledge and skill base through a curriculum consisting of 144 hours of combined class and lab courses followed by a 2,000-hour apprenticeship. The curriculum is fully approved and recognized by the U.S. Department of Labor.

“There is a shortage of qualified fiber workers, and many different types of organizations with different levels of experience are deploying fiber. It made a lot of sense to put together a program,” says Mark Boxer, OFS and FBA Board Liaison to the Education Subcommittee. “Ultimately, what we’re trying to do is ... increase the pool of available and qualified [workers] and do that as quickly as we can.”

Wilson Community College in Wilson, North Carolina, will be the first to pilot the OpTIC curriculum. Boxer says there will be a fee to enroll in the program but the exact price point hasn’t been determined.

“Many training programs are more expensive, relying on employers to pay for the training,” he says. “This program is designed to be less expensive and expose people who may not know about the potential careers available in the fiber world.”

STRUCTURED ON-THE-JOB TRAINING

Other certification programs are available in the industry. One of the longest operating is a training course developed by the Fiber Optics Association (FOA), a professional organization and certifying body for fiber optics, established in 1995 by a group of trainers from the industry and Jim Hayes, the organization’s president. The FOA is a nonprofit organization chartered to promote professionalism in fiber optics through education, certification and standards.

Like the FBA’s OpTIC program, the FOA doesn’t provide classes but instead offers its training course to about 200 affiliated schools in 40 countries. In the U.S., the curriculum is also approved by the U.S. Department of Labor. Instructors at these schools teach FOA material. Student work is submitted for review and certification by the FOA. To date, the organization has issued more than 84,500 certifications. The FOA website also contains pages of educational materials and videos to enhance learning across fiber skill sets.

Hayes maintains that learning to work with fiber in the field is not difficult, nor does it take weeks to gain proficiency if it’s taught correctly. With a long track record of success, he’s confident the FOA model of convenient, online access instruction at no cost makes sense for most of the fiber industry.

“If you have ever worked with fiber contractors, you probably understand how they work. They use lots of subcontractors locally, and many of those are always moving around from job to job, so the idea of committing to a long-term course at a college seems far-fetched,” Hayes says. “What they do like, and what we work with them on, is structured on-the-job training using the FOA’s Fiber U online self-study programs. Contractors and workers like this approach because it fits their way of working and, being an FOA program, it’s free.”

READY-TRAINED CANDIDATES

Whether certification comes from the FOA or the FBA’s OpTIC curriculum, fiber workforce recruiters will likely agree that more training options are good – if they implement accepted industry standards and best practices.

Congruex is a multinational organization that specializes in broadband network construction and engineering. The company supports service providers across the U.S. It offers clients an array of broadband-related support in network design, engineering, construction and maintenance. With more than 3,800 employees and up to 40,000 active projects underway nationwide, Congruex is constantly looking for talent, especially in feast mode.

“We hire telecom talent from A to Z. We’re talking construction

and engineering, and within the construction realm, this includes everything from general labor and underground work, to aerial work, fiber splicing and more,” says Christine Havey, senior director of people services at Congruex. “On the engineering side, we’re always looking for people with drafting design skills and local permitting knowledge. We also have an area of the business that requires advanced civil engineering experience and licensed professional engineers (PEs).”

As with many fiber broadband design-build companies, Congruex has in-house training programs to develop new and existing team members in all areas of its operation. But, having more candidates ready-trained is something the company would welcome. In fact, Congruex is actively working with and seeking more schools across the nation to recruit graduating students right into fiber-based careers. With a footprint that extends across the U.S., the job opportunities for new graduates are plentiful.

“We would definitely benefit from outside training and certification programs and are certainly open to it,” says Ryan Murphy, manager of people services at Congruex. “On the engineering side, we have yet to find a certification program or school that does design, permitting, drafting or field engineering. If that existed, we certainly would be interested in that as well. Those people have been somewhat difficult to find because of the high demand right now to fill those positions.”

Trade schools or two-year colleges are options to provide education for fiber engineering-oriented careers. However, few across the country offer this type of curriculum or degree. Currently, there’s not a concerted industry-level effort to develop these programs at higher education institutions. More commonly, it’s left to individual communities to work with local schools to offer these types of classes and drive awareness of the opportunities.

“At Congruex, we are starting to partner with schools that offer courses and degrees for what we do, but few exist on the engineering side,” Murphy

says. “I think it’d be great to have more options to help develop talent for our industry.”

Tom Tunstall, senior research director of economics and public policy at the University of Texas at San Antonio, says these tailored educational opportunities are successful in supporting local industries.

“Universities, in particular, are well-positioned. They’re doing things such as reverse credentialing, [in which] work done in the four-year university can count toward a student’s associate degree or vocational degree,” he says. “In San Antonio, Toyota and Alamo Colleges work together all the time on programs to develop skill sets and certifications [Toyota] needs. I think telecom companies will be doing some of that too, because not every career requires a four-year degree.”

With a focus on educating more fiber-ready workers, the industry still must deal with fierce competition among employers to recruit and retain their workers. Company representatives report instances of competitors attempting to poach their workforces. The lure of a dollar more per hour is often all it takes for an employee to leave for the company across town.

“We’ve recently updated our offering because the market is so competitive. Most companies now counter-offer their employees if they’re getting headhunted. Everybody has to step it up when it comes to compensation benefits offered,” says Murphy. “Just like in any industry, people go where they’re taken care of, and Congruex takes that very seriously.”

Tunstall adds that the pandemic economy and subsequent labor shortage created somewhat of a reckoning for companies and what they pay their frontline workers. In economies past, he says management was rewarded with greater compensation while hourly workers saw their pay stay stagnant.

“If you look at the returns since the 1970s, related to increased productivity, most of those gains have gone to investors or senior management, not workers. If the minimum wage kept up with productivity increases, then it would be well north of \$25 an hour,” Tunstall says. “Certain segments of society have been well rewarded by the

productivity gains since the ’70s, but rank-and-file workers have not been among them. The federal relief package wasn’t necessarily intended to address the minimum wage issue. However, it’s having some of that impact, which I think is long overdue.”

DRIVING AWARENESS

Higher wages are only part of the hiring puzzle. Fiber broadband companies also must drive awareness that the fiber industry is an excellent career move. Havey finds that workers sometimes don’t have a clear understanding of the tremendous growth happening throughout the industry. More marketing effort is going toward touting the career opportunities in the fiber industry.

“Part of our strategy is social media. We are trying to bring awareness to future talent that we connect communities and people through the work that we do,” says Havey.

So, how can companies keep the fiber workforce they worked hard to recruit and develop? Competitive pay is a must along with excellent work cultures.

“People need to feel valued. Really making sure your employees feel recognized through a structured rewards and recognition program,” Havey says. “There’s value in creating a culture where your workers want to stay and not leave for one dollar more at a competitor that maybe doesn’t have programs in place around people and culture.”

Building a fiber workforce is more challenging than ever. This issue will be discussed at a special panel session at the 2021 **BROADBAND COMMUNITIES** Summit in Houston, September 27–30. Industry experts will explain in more detail smart strategies to recruit and train the A-to-Z workforce needed to close the digital divide. ♦



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