

# Strengthening the Broadband Labor Workforce

Industry organizations, unions and service providers turn to vocational schools and community colleges to ramp up fiber and broadband installer training programs.

By Sean Buckley / *Broadband Communities*

**A**n influx of government and private money dedicated to broadband is enabling service providers to set ambitious plans to upgrade networks. But many providers are discovering that the critical challenge in this endeavor is building a strong broadband labor pool.

Telco and cable operator workers hired in the 1990s – when many providers last did major network expansions – have retired or will soon retire, taking with them the knowledge and skills required to transform the networks to fiber to the home (FTTH) and DOCSIS 4.0.

Bob Murphy, senior vice president of business services at ATX, says the emphasis on crews for the communications industry has hit a “20-year lull.”

“There was not a dedicated focus on training the workforce,” he says. “It shifted to an IT-centric workforce instead of pure outside- or inside-plant technicians or line workers.”

Even though the U.S. telecom industry will create 850,000 jobs by 2025 according to a coalition of industry associations, Mears, a



Bob Murphy



Trent Edwards

construction and engineering services firm, sees the lack of a skilled workforce as a potential issue. “There’s going to be a huge demand for the specialized construction that will take place,” says Trent Edwards, president of Mears Broadband.

## PROVIDERS SEE LABOR NEEDS

The largest telcos and cable operators engaged in major network transformations clearly see the need to enhance their labor force.

AT&T’s \$21.6 billion 2021 capital investment was dedicated to fiber broadband and 5G wireless. The telco’s fiber technicians are working with state and local governments to expand broadband access through American Rescue Plan (ARP) funding, including in Indiana, Kentucky, Louisiana and Texas. “As more projects like these receive funding, we’ll need an even deeper pool of skilled workers to ensure that we’re able to capitalize on this once-in-a-generation opportunity to connect more communities to the internet,” said AT&T in a blog post.

AT&T isn’t immune to labor shortages. It saw fiber installations drop from 1 million to 500,000 in the third quarter, yet the telco maintains it will expand its fiber footprint to about 30 million locations by 2025.

Likewise, Lumen’s Quantum Fiber division will extend service in more than 30 cities and metro areas. During the third quarter, Lumen enabled 210,000 locations with fiber broadband, with about 195,000 in its 16 “routine” states,

bringing the total to 3 million. This fell short of the 1 million location goal it set for 2022.

Chris Stansbury, executive vice president and CFO of Lumen, told investors that labor and permitting impacted deployment timelines. “The permitting process and third-party labor supply



Chris Stansbury

have been a significant headwind for us this year,” he said. “[Though] we are not satisfied with our enablement pacing year to date, we established a factory internally as we pivoted from micro-targeting to a market-based approach that includes planning for engineer[ing], construction and enablement.”

Smaller telcos, such as TDS Telecom, are also seeing labor challenges. “Although we’re pleased with the 72,000 fiber service addresses we deployed so far this year, our service address delivery is slower than planned [because of] some industrywide headwinds, such as labor shortages and permitting complexities, which are putting pressure on our service address targets,” said Michelle Brukwicki, CFO of TDS, during its quarterly earnings call.

TDS said it is on track to cover 60 percent of its footprint with fiber by 2026 – a total of 1.2 million locations.

MSOs are equally as concerned about labor. Tom Rutledge, the outgoing CEO and chairman of Charter Communications, told investors during its third-quarter earnings call that labor was one of several issues affecting costs. “We’re having issues with the supply chain and developing a workforce,” he said.



Tom Rutledge

The labor issue is not relegated only to traditional providers. Alcorn County

## As part of the Biden Administration’s Infrastructure Talent Pipeline Challenge, Communications Workers of America partnered with AT&T and Corning to expand training and new jobs.

Electric Power Association (ACE Power), a Mississippi-based electric cooperative, sees an opportunity to fill the state’s need for more broadband technicians through its partnership with Northeast Mississippi Community College (NEMCC) and the Fiber Optic Association (FBA).

Mississippi’s broadband market got a boost after 2019. The Mississippi Legislature passed a law allowing electric cooperatives to provide internet service – enabling access in poor, rural areas where an estimated 40 percent of the state lacked access.

Brandon Curry, manager of broadband services for ACE Fiber, says the only way to improve power and internet infrastructure is a well-trained team of fiber technicians. “There are a lot of people I know who are older and will retire soon,” he says. “Trying to find the younger age group to come in and backfill these jobs is where this program will be huge.”



Brandon Curry

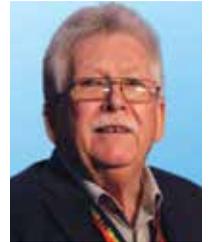
### BOOSTING THE LABOR FORCE

Service providers are ramping up broadband labor efforts on various fronts. As part of the Biden Administration’s Infrastructure Talent Pipeline Challenge, Communications Workers of America (CWA) partnered with AT&T and Corning to expand training and new jobs. This includes bringing former broadband technicians back into the sector and encouraging companies engaged in AT&T and Corning training programs to attend

additional safety courses, including those led by CWA.

AT&T and CWA are creating a task force to design broadband apprenticeship programs, work with community colleges to expand career options for current employees and streamline tuition reimbursement.

Chris Shelton, president of CWA, said the Pipeline Challenge could reinvigorate the technician workforce. “With significant investment from the Biden Administration and commitments from our industry partners, we can make these technical careers within reach for many more workers, including former technicians,” he said. “It is critical to diversify our workforce, offer economic mobility and job security opportunities, and meet the nation’s need for fiber broadband.”



Chris Shelton

AT&T maintains that its commitment to enhancing its workforce is ongoing. “Even before the White House announced its summer challenge, we invested in our workforce,” the company said. “We spent the last year building on our deep ties within the industry to set up programs that will enlarge the talent pool and support the goal of maximizing the impact of federal broadband dollars.”

Charter, meanwhile, is increasing employee tuition assistance to \$10,000 per year and expanding its military recruitment efforts to three different military bases.

Finally, Lumen Technologies dedicated more than \$80 million to hire 1,000 new employees, many of them [for] union jobs, to support its fiber broadband expansion program. Lumen will also provide in-person, hands-on technical training sessions.

“We know how important it is to commit to training, building and caring for new talent,” Lumen said. “We offer education, training and childcare benefits to hundreds of frontline technicians, project managers and other leaders we are actively hiring to support the buildout of America’s internet infrastructure.”

## COMMUNITY COLLEGE, VOCATIONAL SCHOOL PACTS

Labor unions, industry associations, service providers and vendors are creating pacts with local community colleges and vocational schools to build a new labor pipeline.

An early leader in the fiber training trend is the Fiber Optic Association (FOA). The nonprofit organization has certified nearly 90,000 fiber technicians. It provides free consultation, curricula and contacts to schools to get them started. Two types of schools work with the FOA: those that teach telecom and want a fiber

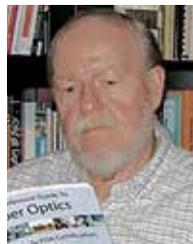
module to provide FOA certification and those that provide adult education.

“We have had much interaction with schools that want to teach fiber, and out of the 137 schools we work with, two-thirds are in that category,”

says Jim Hayes, president of the FOA. “The rest are independent trainers, manufacturers and 30 International Brotherhood of Electrical Workers (IBEW) apprenticeship programs.”

Local community colleges in California, Louisiana and Mississippi have adopted the FBA Optical Telecom Installer Certification (OptTIC) Path Program, which is now offered or in consideration at 40 colleges, learning institutions and employers in 32 states and two countries outside the U.S.

NEMCC, which adopted the OptTIC Path Program, will offer workforce training courses to support the state’s fiber network growth. The college is working with three fiber operators, including ACE Power, Tippah Electric Power Association and Tombigbee Fiber, to ensure training



Jim Hayes

is specialized to local requirements, recruit OptTIC Path Program course instructors, and draft grant proposals to purchase training equipment. It submitted a grant proposal of \$440 million, funded by Mississippi’s workforce development board Accelerate Mississippi, for fusion splicers and a field service lab. The college expects to offer its first OptTIC Path course in early 2023.

Greg James, assistant workforce director at NEMCC, noted that as power companies have gotten into broadband, fiber installations have “taken off like crazy.”

“We appreciate Accelerate Mississippi for helping us to help our communities,” James says. “All we need to do is provide these enhanced skills to enable folks to get well-paid jobs and improve quality of life.”

Though enabling fiber-based consumer broadband is a priority, James sees an opportunity to help businesses that need higher bandwidth capabilities. “After the fiber is installed in homes, you will see more fiber being installed in hospitals, schools and manufacturing facilities,” he says. “There’s going to be a huge demand for fiber splicing skills.”

Service providers of all sizes aim to incorporate training programs into their repertoires. ACE Power is helping NEMCC train and attract other cooperatives to adopt the OptTIC Path Program. “After being introduced to the FBA, I reached out to other cooperatives to gauge interest in NEMCC’s program,” Curry says. “Fellow co-ops Tombigbee [Electric Power Association] and Prentiss [Prentiss County Electric Power Association] joined me to get certified in teaching the fiber training class.”

Curry says ACE Power is getting inquiries from contractors and plans to talk to high schools. “Contractors have expressed interest, and we’re going to



Greg James

## IIJA PUBLIC INFRASTRUCTURE FIBER TRAINING OPPORTUNITIES

There’s a clear need to enhance the broadband labor force to build out services to consumers and businesses – and there’s an equally robust opportunity for a new breed of technicians to support the fiber that powers public infrastructure. There’s a significant opportunity to enable employees to install traffic signal infrastructure, including fiber.

The Fiber Optic Association (FOA) provides certification to the International Municipal Signal Association, which uses fiber for intelligent traffic light systems. Though the U.S. government set aside \$42.5 billion in federal funds for broadband through the Broadband Equity, Access, and Deployment (BEAD) Program, it represents only one element of the broader Infrastructure Investment and Jobs Act (IIJA) program. Jim Hayes, president of the FOA, says there are several other fiber training opportunities. “IIJA includes money for highways, bridges, railroads, public transportation, seaports, airports and electric utilities,” he notes. “All of those programs include fiber.”

reach out to high schools,” he says. “We want to attract high school students by giving them another career option.”

As in Mississippi, the California broadband market is a hotbed of growth. With more than \$5 billion in broadband funding coming to California, the demand for fiber technicians will be very high.

Governor Gavin Newsom signed broadband legislation in 2021 – Senate Bill 156 (Chapter 112, Statutes of 2021) – which expands the state’s broadband fiber infrastructure. It increases internet connectivity for families and businesses with \$6 billion dedicated to the last mile, middle mile, local government broadband infrastructure development, and local agency technical assistance grants, including funding for tribes.

California’s CWA District 9 local union division, in partnership with the Chabot-Las Positas Community College District (CLPCCD), launched a fiber technician apprenticeship program. Funded by a \$5.8 million federal grant, the program will be housed at the existing CWA training center in San Jose and three additional sites across California.

The union says its apprenticeship program will fill the demand for fiber technicians and provide new job opportunities.

As the state doles out broadband funds, the CWA apprenticeship

program will also create direct incentives for employers to invest in a well-trained workforce by covering training and equipment costs for apprentices. “The idea is to organize the industry,” says Frank Arce, vice president of CWA District 9. “The state and the federal governments are working on establishing labor standards because unions and safety go hand in hand.”

Sarah Holtzclaw, director of apprenticeship programs at Tri-Valley Career Center, part of the CLPCCD, adds that it offers classes that allow apprentices to get college credit. “CWA

has member employers who send their employees to the training they want to upskill into fiber optic apprenticeship,” she says. “The CWA will expand that number and bring additional employers.”



Sarah Holtzclaw

Newcomers will be trained in computer literacy, OSHA certification and a tiered process to learn about fiber. For each stage, students get college credit. They can then continue and earn their associate’s degrees. “These are great-paying jobs, and participants don’t need to choose between a good-paying job and college – they can do both,” Holtzclaw says.

Vendors are also helping build the labor pipeline. ATX, which serves the cable industry, says the biggest obstacle to keeping customers happy and competitors at bay is access to a skilled workforce. ATX will partner with community colleges and vocational schools to offer its Field Personnel Replenishment Program (FPRP). “The realities of the field shifted our focus to vocational schools,” ATX’s Murphy says. “We will partner with Cape Fear

Community College and the Colorado Springs Linemen School.”

## NEW RECRUITMENT EFFORTS

As demand for more broadband technicians rises, there’s a growing effort to find ways to recruit new technicians into the field. Curry says attracting new technicians is challenging. “We want to bring in people who want to be in the fiber industry, and this program will allow us to train them to know all the types and to be able to splice a mainline fiber,” Curry says. “The goal is to ensure our techs see this as a lasting career.”

AT&T and CWA are creating a pilot apprenticeship program for new employees to develop technician skills, which will be compensated so employees can learn on the job. They are also providing opportunities for incumbent AT&T employees to receive training. In addition, AT&T will seek to develop streamlined tuition reimbursement plans to reduce financial barriers for interested AT&T employees and scholarship opportunities for recruits to gain relevant training.

Lumen’s recruiting and training programs provide opportunities for high school students, people transitioning



Frank Arce

## TELCOS, VENDORS AND UNIONS RESPOND TO WHITE HOUSE INFRASTRUCTURE TALENT CHALLENGE

After the Biden Administration issued a call to action to support workforce development through its Infrastructure Talent Pipeline Challenge, more than 350 businesses in 50 states responded with a commitment. Communications Workers of America, AT&T, Corning, Lumen and Charter Communications all submitted responses.

The Infrastructure Talent Pipeline Challenge is a nationwide call to action for employers, unions, education and training providers, states, local governments, tribes, territories, philanthropic organizations and other stakeholders to make tangible commitments that support equitable workforce development focused on three critical sectors: broadband, construction and electrification. According to the administration, the challenge – along with the CHIPS and Science Act, Inflation Reduction Act, and American Rescue Plan – is “creating millions of good-paying union jobs, and [...] aims] to ensure that workers across the country are trained for these jobs.”

AT&T, Lumen, ATX and others are dedicating significant resources to recruiting and training fiber technicians. The CWA and NTCA will engage community-based broadband providers to make apprenticeship programs accessible.

from the military, and those looking to get into the tech world, regardless of experience. The provider's Enhanced Premise Technician New Hire Program, Ops Academy and Field Academy offer training in technology, safety, customer experience, systems, processes and standards/expectations. Lumen also provides on-the-job mentoring, job shadowing and coaching.

The company said in a release that it is "investing more than \$80 million annually to hire and employ nearly 1,000 new workers in support of [its] fiber broadband expansion program" and is "also providing hundreds of in-person, hands-on technical training sessions in support of this effort."

ATX will work with community colleges and other vocational training centers to supply the cable industry with the additional qualified field technicians necessary to overcome severe labor shortages and assist MSOs in completing ambitious hybrid fiber-coax evolution projects. "The approach is to get new talent that desires to be in the space," Murphy says. "We then fine-tune [new hires] with MSO experience and build a team that can be profitable and provide quality service across the board."

Attracting veterans is another critical priority. Through its partnership with Cape Fear Community College in North Carolina, ATX can help soldiers leaving the military begin new careers. "The military has programs that allow soldiers to participate in school before they have terminated their contract," Murphy says. "We can reward these individuals for their service."

The Mears Group focuses its recruiting success on partners, career pathways and training and development. After recruiting someone, there's an

emphasis on learning the job safely, providing a path into management, and learning a trade from experts.

"We provide internal career pathways by providing people opportunities to get into construction at an entry level and advance into a high-growth career," Edwards says.

No less important is culture. "Company culture is overlooked in construction," Edwards says. "We try to cluster projects regionally to bring scale and volume, and workers don't have to be away from their families. The more we win these culture battles, the more we'll be successful at bringing people into this industry."

## MAKING RURAL CONNECTIONS

Large markets offer opportunities for new technicians entering the telecom installer trade, but the need in rural areas is no less critical. Rural providers, many of which are in areas where the FCC awarded Rural Digital Opportunity Fund (RDOF) funding, face several challenges in retaining the population and providing job opportunities.

According to industry estimates, 90 percent of the rural broadband market will mainly be served by a mix of electric and independent telco cooperatives. Today, there are more than 2,000 electric cooperatives and 2,000 traditional telephone cooperatives.

"With the FCC's RDOF being in these rural areas, people need work," Murphy says. "People are moving away [from rural areas], so hopefully, new broadband training programs can keep folks home and help them with training so they can be [useful] in their communities."

NTCA—The Rural Broadband Association announced partnerships with Northwood Technical College, the National Rural Education Association (NREA), and the CWA. The NTCA will create training, apprenticeship and education opportunities for the broadband workforce in the rural U.S. and for K–12 students through these partnerships.

Northwood Technical College will provide NTCA member companies online access to Northwood's Broadband Academy courses and library and a "Digital Badging" program. Students may enroll on a course-by-course basis or complete the entire program. The NREA and NTCA will work with local broadband providers and school districts to identify existing and new curricula that correlate to broadband industry needs.

The CWA and NTCA will engage community-based broadband providers to make apprenticeship programs accessible to NTCA member companies with CWA workforces. Their employees will have the opportunity to have employees participate in an OSHA 10 training course delivered by OSHA-authorized CWA trainers who are broadband technicians themselves.

Shirley Bloomfield, CEO of NTCA, said that given that the "retention and recruitment in rural markets is more challenging than in urban markets," these partnerships will enable the organization to "support the broadband providers we represent and the communities they live in and serve." ♦



Shirley Bloomfield

*Sean Buckley is the editor-in-chief of **BROADBAND COMMUNITIES**. You can contact him at [sean@bbcmag.com](mailto:sean@bbcmag.com).*

