

Workforce Training

For Fiber Broadband Deployments



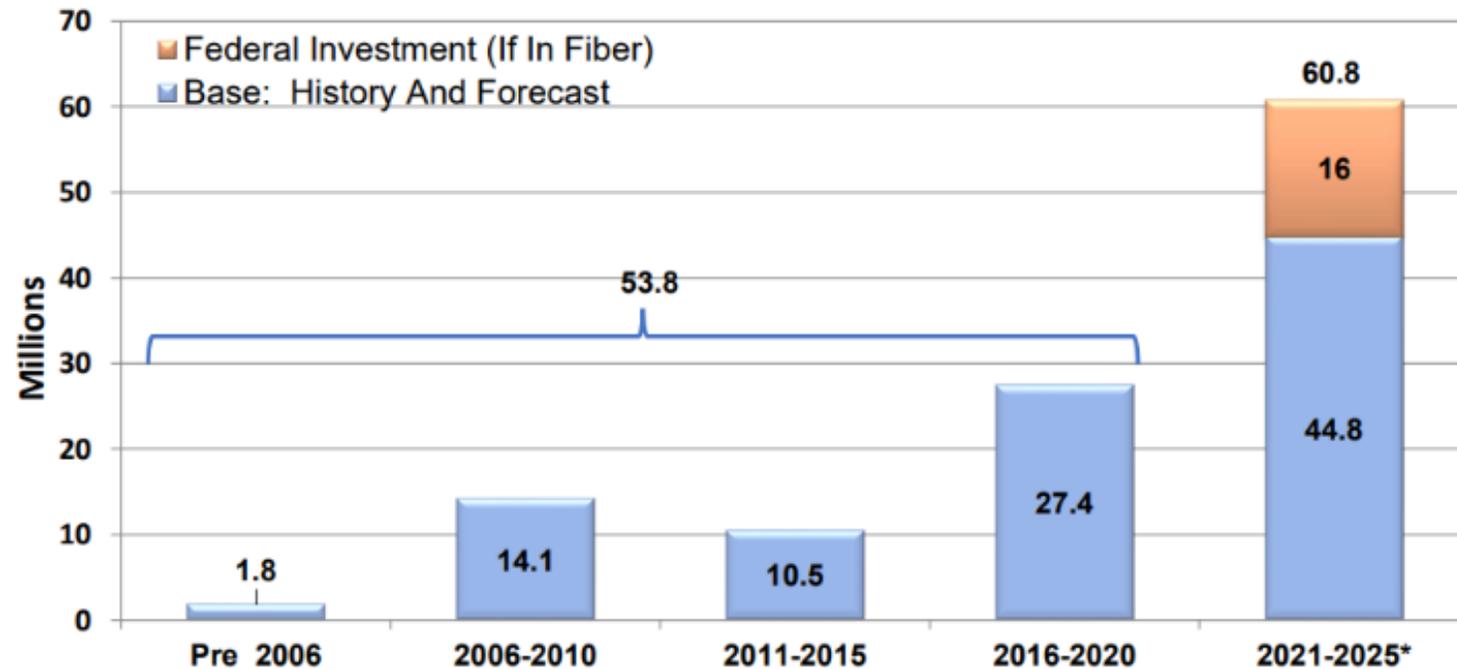
Introduction to the Fiber Broadband Association (FBA)

- Established in 2001
- FBA provides advocacy, education and resources to companies, organizations and communities who want to deploy the best networks through fiber to the home, fiber to the business and fiber everywhere.
- Member based
- Hundreds of members in the US and Canada
 - Telecommunications Service Providers of all types
 - Vendors of telecommunications equipment
 - Installation contractors
 - Consultants
- FBA is affiliated with similar groups advocating for fiber optic networks around the world.



Fiber is growing dramatically – significant need for trained technicians

More New Fiber May Be Built In This 5-Year Period Than All To Date Preliminary Homes Marketed Long-Term Forecast RVA Whitepaper 2021



**This Early 21-25 forecast could be somewhat optimistic given potential supply constraints, federal infrastructure moneys going to non fiber etc.*



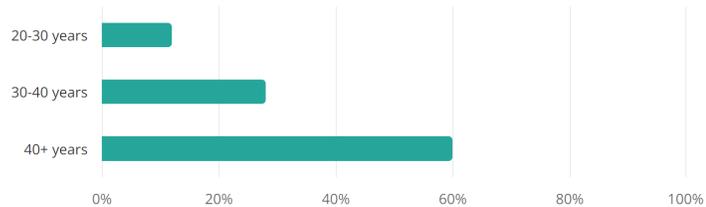
Aging Workforce – Increase in Broadband Jobs

“A large percentage of the utility workforce will retire in the coming years, and not enough skilled workers will exist to fill the gap.”

Fiber Optic Splicer Age Breakdown

This chart breaks down the ages of Fiber Optic Splicer employees. Interestingly enough, the average age of Fiber Optic Splicers is 40+ years old, which represents 60% of the population.

Compare Jobs ▾

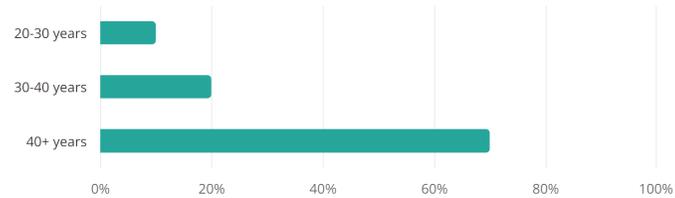


Fiber Optic Splicer Years	Percentages
20-30 years	12%
30-40 years	28%
40+ years	60%

Broadband Technician Age Breakdown

This chart breaks down the ages of Broadband Technician employees. Interestingly enough, the average age of Broadband Technicians is 40+ years old, which represents 70% of the population.

Compare Jobs ▾

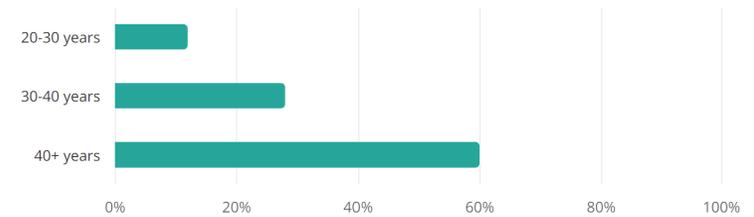


Broadband Technician Years	Percentages
20-30 years	10%
30-40 years	20%
40+ years	70%

Fiber Optic Technician Age Breakdown

This chart breaks down the ages of Fiber Optic Technician employees. Interestingly enough, the average age of Fiber Optic Technicians is 40+ years old, which represents 60% of the population.

Compare Jobs ▾



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“The Fiber Broadband Industry is expected to create nearly 205,000 jobs by 2026”

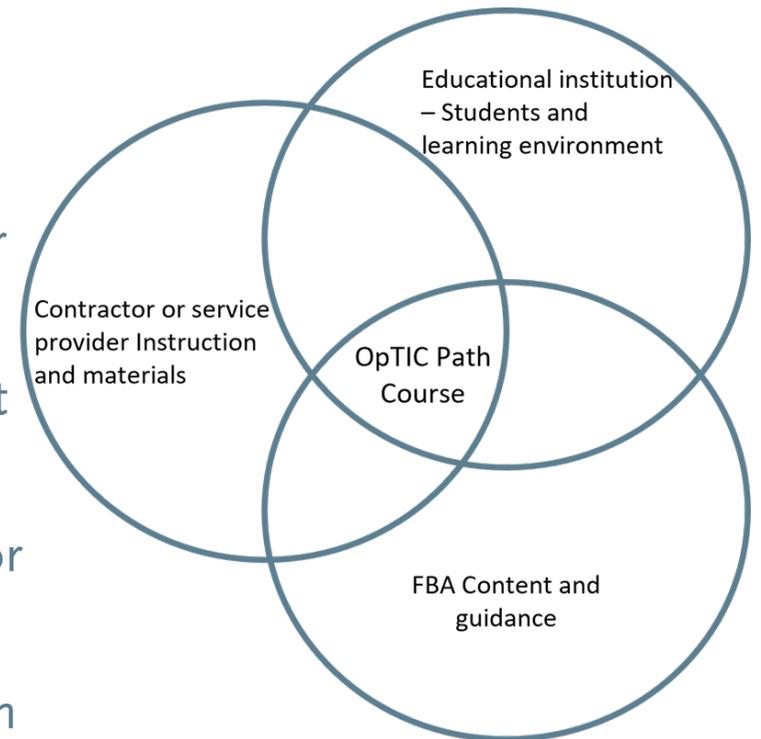
The Solution

Expand fiber technician population nationwide by providing standardized, expansive and progressive training nationwide



OpTIC Path™ Course and Certification

- Goal is **trusted, nationally-recognized** entry level fiber credential
- Offered through community colleges and vocational schools in conjunction with a telecom service provider
- Deep focus on fiber-related knowledge base and skill set for fiber optic technicians, fiber splicers and premise technicians
 - Content vetted by FBA Education and Deployment Specialist Committees
- Course designed to lead to a future internship, apprenticeship, or employment
 - US Department of Labor Registered Apprenticeship Program



Up to 144 Hours* of Content and Skills Mastery

- Applications and Advantages of Fiber
- Fiber Theory, Types, Geometry
- Safety and tools
- Cables and Cable Structures
- Architectures & Topologies
- Connectors, Splicing, and Splitters



Splitter connected to hallway cord

- Cable and Fiber Management
- Test Equipment and Testing
- Outdoor and Premise Installation
- Overview
- Systems Overview
- Optical Network Terminals
- Troubleshooting



*110-120 hours for non-apprenticeship tracks
144 hours for US DoL apprenticeship track



Pilot program – Wilson (NC) Comm College/Greenlight

- **Justin Hayden** – “The Fiber Broadband Association OpTIC course has been incredible!..... I have not had any hands-on experience with fiber before this class, and I now feel confident in my skills, although more practice never hurts.”
- **Jimmi Hendricks** – “Just wanted to say how much this class has actually helped in real life. We had a significant outage this past FridayI pulled Cesar into the repair team, and he was amazing! The training he received paid off big time. He was able to build closures, prep and splice cables on his own and did an amazing job! I picked Cesar strictly because of the training he received. A huge thanks to FBA and all involved this shows how important this class is and will be!”
- **Graduated 8 of 9 with 1 dropout**
 - 1 HS graduate hired (Noah)
- **Next class planned for Spring, 2023**



Current Support Resources

- Presentations (> 1000 slides)
- Includes chapter reviews
- Student kit (lays out exercises)
- Train the Trainer Resources
- Materials list
- Instructor skills assessment
- Calendar scheduling tool
- Photo and video library from pilot
- Class timing planning tool
- Final exam and LMS
- Certificates
- FBA connection to vendor partners






MDU surface-mount simulation

- MDU simulation shown to the right.
- Painter's tape used to simulate a hallway. Each student gets a "doorway"

• MDU skill points

- Attach cord down the hallway
- Store cable in point of entry module in the doorway
- Pull out fiber and splice on connector
- Use VFL (red light) source to check continuity



Splitter connected to hallway cord

Optical Telecommunications Installer Certification			
Skills Testing Documentation – Fiber Optic Splice Closure			
Name:	Last:	Print:	Date:
Opened cable the length identified in the application procedure	<input type="checkbox"/>	Technician properly seals the endplate following cable anchoring	<input type="checkbox"/>
When working with armored cable, technician properly installed a shield braid connector to the cable	<input type="checkbox"/>	Buffer tubes and/or ribbons are properly routed to their storage area	<input type="checkbox"/>
Technician properly identifies shield braid connector (when applicable)	<input type="checkbox"/>	Technician cuts proper buffer tube or ribbon based on the assigned application.	<input type="checkbox"/>
Technician properly identifies closure kit components and their function if they will be used in the application.	<input type="checkbox"/>	Technician measures and opens buffer tube at appropriate location or technician measures and cuts function tubing that will route from the basket to the tray.	<input type="checkbox"/>
Technician properly restrained cable to the anchoring bracket	<input type="checkbox"/>	If using ribbon, technician uses proper tubing and method based on the application to get the fiber to the tray.	<input type="checkbox"/>
Technician cuts strength members to proper length and restrains under strength member retention cap	<input type="checkbox"/>	Technician securely restrain buffer tube/function tube to tray, but does not kink the tubing as to induce attenuation	<input type="checkbox"/>
Technician properly prepares the endplate for cable entry	<input type="checkbox"/>	Technician properly applies the lid to the splice tray and secures the tray to the organizer.	<input type="checkbox"/>
Technician measures the cable's OD to determine the diameter in inches and selects the correct sealing accessory per the cable being utilized	<input type="checkbox"/>	Technician properly applies sealing gasket per manufacturer recommendation (when applicable)	<input type="checkbox"/>
Technician properly enters the cable in the proper port based on the application outline; if application requires express cables or small diameter cables, ensure the proper sealing apparatus is used properly.	<input type="checkbox"/>	Technician successfully enters the organizer into the closure (when applicable) and applies the collar (when applicable)	<input type="checkbox"/>
Cables are properly anchored the restraint bracket	<input type="checkbox"/>	Technician performs flash test on sealed closure and remedies sealing issues where present until closure is properly sealed.	<input type="checkbox"/>
(International equivalent standards may be used and must be documented.)			
Instructor Name (Print):	Instructor Signature:		Student Signature:

How do I start a course?

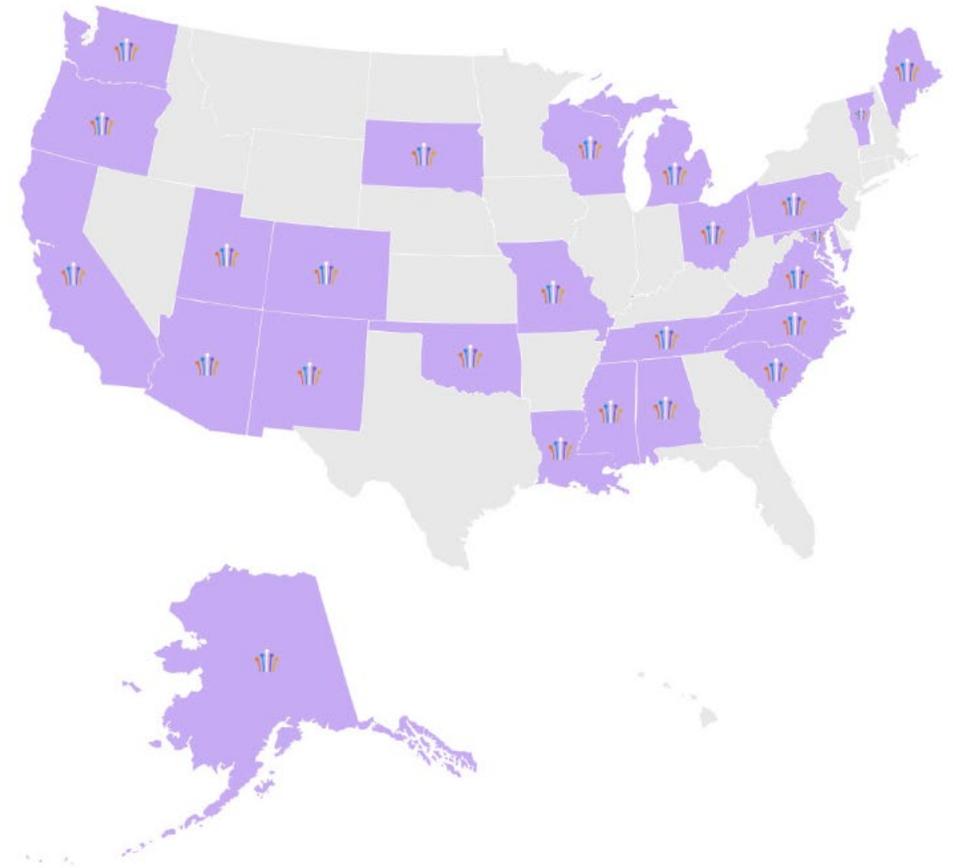


Ready to start a course?

We Are Working With Colleges & Veterans Programs Nationwide!



Contact Deborah Kish, FBA
dkish@fiberbroadband.org



Additional discussion and next steps?

