



The Smarter Way:

Workforce Challenges & Solutions Under the NTIA BEAD Program





Introduction

The Broadband Equity, Access, and Deployment (BEAD) program, with its \$42 billion funding allocation, represents a landmark effort to bridge the digital divide in the United States. However, the success of this initiative hinges on addressing a critical challenge: the workforce shortage in the broadband industry. This white paper explores the workforce issues Internet Service Providers (ISPs) face and presents comprehensive solutions to mitigate these challenges, ensuring the timely and efficient deployment of broadband infrastructure.

The BEAD program's
\$42 billion
funding aims to bridge the
digital divide in the US.

Summary

The BEAD program's ambitious goals necessitate a substantial increase in the broadband workforce, with estimates suggesting the creation of up to 150,000 new jobs. However, the current shortage of skilled workers poses significant risks to project timelines and quality. This white paper outlines the critical workforce challenges, including recruitment, training, and retention. It presents solutions to address these issues, helping ISPs develop a robust workforce capable of meeting the demands of the BEAD program.

Workforce Challenges

The telecommunications workforce has been shrinking, with a 23% decline over the past decade. The aging workforce and the limited influx of younger workers exacerbate this trend. States such as Arkansas, Illinois, Ohio, and Tennessee are already experiencing acute workforce shortages even before BEAD grants are disbursed.

The rapid technological advancements in broadband infrastructure require workers to possess specialized skills in fiber optics, network maintenance, and advanced telecommunications technologies. However, more comprehensive training programs need to be tailored to the specific needs of broadband deployment, leading to skill mismatches and inefficiencies.



The broadband workforce also lacks diversity, with women, people of color, and other marginalized groups underrepresented. This limits the talent pool and fails to reflect the communities being served. Ensuring a diverse workforce fosters innovation and meets federal compliance requirements.

Additionally, high turnover rates in the broadband sector contribute to workforce instability. Job satisfaction, career advancement opportunities, and competitive compensation significantly impact the retention of skilled workers.

Industry Challenges

NetSuite outlined the top 24 challenges facing the telecom industry, including rapid technological advancements, regulatory changes, increasing customer expectations, cybersecurity threats, and high operational costs. They emphasize the need for telecom companies to innovate and adapt to maintain competitiveness. Key challenges also include managing network infrastructure, dealing with data privacy issues, and addressing the impact of emerging technologies like 5G and IoT.¹

Deloitte identified five key trends:

- The integration of generative AI
- The shift toward flatter organizational structures
- Increased competition in broadband connectivity
- Cloud providers challenging traditional CSPs
- The plateauing of 5G infrastructure investments

They highlight the need for telecom companies to strategically manage these trends to enhance connectivity, improve service quality, and maintain financial health.²

McKinsey explored the potential economic trajectories post-2024, emphasizing the critical role of productivity in achieving growth.

¹NetSuite Article on Telecom Industry Challenges

²Deloitte 2024 Telecom Industry Outlook



It outlines three key productivity drivers: upskilling workers, efficient capital allocation, and leveraging technology.

They highlight current economic uncertainties and the need for businesses to navigate macroeconomic headwinds, demographic shifts, and high costs by adopting productivity-boosting strategies. Success in these areas can lead to economic abundance and improved living standards.³

Recent news has highlighted a challenging period for fiber broadband and internet service providers (ISPs) with significant layoffs and staff reductions across the sector.

Lumen Technologies announced major layoffs affecting over 12% of its workforce. This decision follows a comprehensive restructuring aimed at enhancing operational efficiencies and focusing on strategic growth areas.⁴

The Fiber Broadband Association reported a record annual FTTH (fiber-to-the-home) growth in North America, but this growth is not without its obstacles. Providers are facing issues related to labor availability, rising construction costs, and permitting challenges, which contribute to operational strain and workforce adjustments.⁵

These developments underscore the volatility and competitive pressures within the telecommunications industry, particularly for fiber broadband providers. The sector's expansion efforts are tempered by economic and logistical hurdles, necessitating strategic workforce realignments to sustain growth and profitability.

³McKinsey Article on Economic Stagnation vs. Productivity-driven Abundance

⁴Fierce Network News Article "Lumen announces 1,200 layoffs as 'revenue headwinds' continue"

⁵Fiber Broadband Association. (2023). Press Release "Fiber Broadband Association Reports North America Hit Highest Annual FTTH Growth Record"

Solutions

To address these workforce challenges, several strategic initiatives can be implemented:

1.



TARGETED RECRUITMENT INITIATIVES: Attract and nurture talent by collaborating with academic institutions, vocational schools, and community organizations to reach young talent and raise awareness about the numerous career opportunities in broadband. Enhance diversity recruitment through programs to attract underrepresented groups, including women, minorities, and veterans.

2.



COMPREHENSIVE TRAINING PROGRAMS: Develop robust apprenticeship programs in collaboration with industry stakeholders and educational institutions, providing hands-on training in fiber optics, network maintenance, and advanced telecommunications technologies. Establish continuous learning and development modules to keep the workforce updated with technological advancements and best practices. Utilize technology platforms to deliver training programs efficiently and effectively.

3.



SUPPORTIVE WORK ENVIRONMENT: To enhance job satisfaction and reduce turnover, flexible work schedules, remote work options, and comprehensive benefits packages are recommended. Support for services such as childcare, transportation assistance, and career counseling to employees, particularly those from disadvantaged backgrounds are also recommended.

4.



CLEAR CAREER PATHWAYS: Create clear career pathways with opportunities for advancement within companies. Develop mentorship programs to help employees navigate their career progression. Ensure wages and benefits exceed industry standards to attract and retain top talent. Regularly review compensation packages to ensure competitiveness in the labor market.



5.



COLLABORATIVE EFFORTS AND PARTNERSHIPS: Foster collaborative efforts and partnerships with ISPs, government agencies, and industry associations to share best practices, resources, and insights—lead initiatives to promote collaboration and drive collective efforts in workforce development. Work with government entities and non-profits to access funding, grants, and resources aimed at workforce development. These partnerships will help reach marginalized communities and support a diverse and inclusive workforce.

Conclusion

The BEAD program presents a significant opportunity to expand broadband access across the United States, but its success depends on overcoming the workforce challenges that ISPs face. By implementing strategic recruitment, comprehensive training, supportive work environments, and robust retention strategies, ISPs can build a skilled, diverse, and stable broadband workforce. This holistic approach ensures that the BEAD program's goals of universal broadband access can be achieved efficiently and effectively.

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Ready to Take the Next Step?

Essentia has been evolving the traditional approach to fiber network deployment for two decades. With the use of drones, cutting-edge field collection, and technology integration through each step of the process, our design/build model is faster and more precise. Our tech-enabled platform (eSpeed) dramatically reduces headcount requirements through automations and improved field visibility.

We welcome the opportunity to be your network deployment partner! Please contact Adolfo Torres to learn more about how we are accelerating timelines and helping carriers and operators create revenue faster!



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