

BROADBAND DEPLOYMENT ADVISORY COMMITTEE (BDAC)

**Broadband Infrastructure Deployment Job Skills and
Training Opportunities – Working Group**

10/30/20

Working Group Members

* Main BDAC Members

1. Leticia Latino* (Chair)
 2. Rikin Thakker* (Vice Chair)
 3. Earl Buford
 4. Kelleigh Cole*
 5. Todd Crump
 6. Robert Debroux* (Alt. Tim Ulrich)
 7. Douglas Dimitroff*
 8. Bill Esbeck
 9. Zane Farr
 10. Michael Hain*
 11. Donald Knife
 12. Eve Lewis
 13. Marquita Rockamore (Alt. Tondi Allen)
 14. Steve Sellenriek
 15. Dileep Srihari*
 16. Brent Skorup*
 17. Curt Stamp*
 18. Jeffrey Westling (Replaced Tom Struble)*
 19. Larry Thompson* (Alt. Julie Darrington)
 20. Jenifer Vanek
- Other contributing members mentioned in the full report.

We want to cover today

- **Opening Remarks by Chair and Co-Chair**
- **This 'quarter' at-a-glance**
- **Final Recommendations by the Working Group**
- **Open Floor for Comments and Discussion**



Opening Remarks

- **Chair: Leticia Latino van Splunteren**
CEO, Neptuno USA Corp
lletino@neptunousa.com
- **Vice-Chair: Rikin Thakker, Ph.D.**
Chief Technology Officer, *Wireless Infrastructure Association (WIA)*
rikin.thakker@wia.org
(The report was completed as a representative of Multicultural Media, Telecom and Internet Council)



This quarter at-a-glance

- **Unemployment rate is currently 7.9% and 661,000 jobs added in the month of September.**
(U.S. Bureau of Labor Statistics)
- **August 12, 2020:** A Diverse Coalition of Influential Communications Industry Organizations advocate for Workforce Development in Letter to Congress.
- **September 17, 2020:** New study by National Spectrum Consortium- 4.6 Million jobs in America as part of “New Wave” of Mobility/5G.



This quarter at-a-glance

- **September 28, 2020:** The U.S. Department of Labor (DoL) awarded the Wireless Infrastructure Association (WIA) with a major contract to perform as the 5G Industry Intermediary to develop the wireless workforce. The contract will enable WIA to:
 - Assist employers in developing over 600 apprentices in the next year with multi-year options to renew thereafter.
 - Distribute \$400,000 per year in incentive funds for employers that adopt registered apprenticeship and serve under-represented populations.



WIA's 5G Apprenticeship Initiative Grant is working with the following Community Colleges:

- State Technical College of Missouri
- Terra State Community College (OH)
- Wisconsin Indianhead Technical College
- Monroe County Community College (MI)
- Somerset Community College (KY)

This quarter at-a-glance

NATE: 2020 Employer Workforce Survey*

▪ **Company surveyed:**

- 55% - Turnkey Tower Construction / 38% - Wireless, Antenna & Line Installation/Maintenance

▪ **Challenges to hiring new workers**

- 68% cited lack of available workers as their main hiring challenge

▪ **In what time frame do you plan on hiring new employees?**

- 44% said always recruiting, 36% said 3 to 6 months

▪ **Would your company support and be willing to work with educational providers to establish a telecom program in your respective region?**

- 83% said yes; For now - 21% use College Career Day or Job Fairs

* Results will be released in November 2020; NATE shared consented to share some key results that validate our findings.



This quarter at-a-glance

Working group Specific:

- **Job skills Group Calls – Bi-monthly (7 calls this quarter)**
- **Subgroups met via conference call at their discretion**
- **Focused on Charge #5 - Identifying Performance Metrics.**
- **Recommendations drafting and report issuance.**

Charge #5: Performance Metrics

| Category | Performance Metric | Key Indicator | Performance | Continuous Improvement |
|-----------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Institutions/Programs | Matriculation | Retention rate for moving from one competency level to the next | | Implement intervention processes to support struggling students |
| | Contextualized learning of developmental skills | Rate at which ABE students transition into CTE certificate programs | | Articulation agreements between ABE providers and CT Colleges Evident of iBEST model on campus Ensure adequate support services to ensure persistence |
| | Completion | Graduation Rate | | Selection Criteria Developmental Skills: Reading, Writing, and Math |
| | Cost | Return on Investment (ROI) | | Increase enrollment Use online learning |
| | Equity | Percentage of graduates from socially disadvantaged backgrounds or who have a learning difficulty or disability compared with the total across the organization | | Use targeted recruitment Increase support for socially disadvantaged students |

Charge #5: Performance Metrics

| Category | Performance Metric | Key Performance Indicator | Continuous Improvement |
|--------------------|----------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learners/Graduates | Employment | Percentage of graduates employed within six months of graduation | Provide job placement support to graduates Enhance skills of graduates until they find a job |
| | Employment Retention | Percentage of graduates remaining employed for one year | Institution and employer work together during the 90 day probationary period to provide professional development to graduates to ensure continuation of employment Institution addresses knowledge and skill gaps reported by employers through instructor support and curriculum improvements Confirm retention at the 90 days, 6 months and one year benchmarks |

Charge #5: Performance Metrics

| Category | Performance Metric | Key Performance Indicator | Continuous Improvement |
|-----------|--------------------|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Employers | Recruitment Cost | Average and Median Recruitment Cost for program graduates (vs. baseline or other programs) | Employer involvement in the training |
| | Skill Gains | Percentage of required skills that graduates have on their day of hire | Communicate required skills to training providers Provide on-job training to students |
| | Productivity | Percentage of graduates who do not need further training to become fully productive on their day of hire | Communicate required skills to training providers Provide on-job training to students while still in training program |
| | Turnover | Graduates Turnover vs. Typical Turnover | Provide professional development to employees |
| | Employee Earnings | Average and Median Earnings | Enhance skills of graduates after employment Confirm wages at the 90 days, 6 months and one-year benchmarks |

Report Structure

- **Executive Summary**
- **Identification of Job Skills and Challenges in Expanding Broadband Industry Workforce (Seven Categories)**
- **Adaptable and Scalable Solutions**
- **Successful Job Training Programs**
- **Performance Metrics for Job Skills and Training Programs**
- **Conclusions**
- **Definitions and Terminology**
- **Leadership and Members**
- **Subject Matter Excerpts (SMEs)**

Final Recommendations

#1 Broadband Brand Identity Crisis

To Promote the formation of (or adherence to) a coalition of broadband-related trade associations to jointly advance workforce development initiatives and to centralize and coordinate Industry efforts.

- (a) Create a centralized clearinghouse for all things related to the Broadband workforce. This could include a website to enable unified messaging and a single and consistent point of “information dissemination” for Broadband Workforce initiatives.
- (b) Develop and implement an outreach strategy to promote Broadband Industry jobs and career paths to potential workers and students.
- (c) Invite representatives of the three stakeholder groups to join the coalition and actively support “Broadband workforce development” initiatives, such as creation and promotion of additional training programs for the Industry
- (d) Promote the creation of “Job Codes” recognized by the U.S. DoL that relate specifically to Broadband Industry jobs and help ensure that academic institutions, employers, and workers are educated and aware about advances made on this front.

Final Recommendations

#2 Lack of standardized and nationwide training programs

To undertake a targeted outreach initiative to ensure that training programs are being implemented and promoted both in rural and urban areas equally.

- (a) Create recurring in-person or virtual “summits”, at a local/state level, to bring together employers and training providers and help align their initiatives and goals. Use local workforce development boards to elevate visibility of employer needs and post-secondary training and support creation of articulated content, such as basic skills learning ABE programs.
- (b) Foster more partnerships between industry and training providers to establish additional training paths and degree programs that lead to careers, not just narrowly defined jobs, for the Broadband workforce.
- (c) Endorse and assist with potential expansion of existing, successful training programs.
- (d) Coordinate nationwide standardization among training programs and develop formal credentialing of relevant skillsets.

Final Recommendations

#3 Unawareness or Lack of Federal and State funding for training programs

- **To educate stakeholders and raise awareness around funding vehicles and grant agencies with potential to benefit the broadband workforce development.**
- **To request that part of the Congressionally-approved \$80 Billion budget to deploy broadband infrastructure to unserved and underserved communities be directly and urgently appropriated to address telecommunications infrastructure workforce training needs.**

Final Recommendations

#4 Lack of standardized wages and universal credentialing of skilled workers

To undertake an initiative aimed at:

- (a) Gathering/surveying wages by career path/skills and the recognition of Broadband Jobs as High Skill/High Paying jobs.
- (b) Working with O*NET to include the term broadband in relevant job category titles.
- (c) Agreeing on a framework for a skill-based credentialing system for broadband related careers.
- (d) Educating local workforce and economic development boards on how broadband jobs and job codes are being applied in the system so that funding opportunities can be made more readily available to the workforce.

Final Recommendations

#5 Unique demands of the work: Seasonal, High Liability

- **To consult with lawmakers to address the age requirement for obtaining Commercial Driver Licenses for broadband-related intrastate work.**
- **To explore the creation of a governmentally organized small and minority business owners' program specifically classified within the broadband deployment context, wherein smaller-sized contractor companies in good standing could access group insurance policies, financing, and general commercial terms, at a more beneficial rate if they commit to training new technicians and expanding the workforce.**

Final Recommendations

#6 Dwindling workforce: retirement and other reasons

- **Design training programs aimed at reskilling the workforce.**
- **Engage in more on-campus recruiting, high-school outreach and develop information sessions about the Industry.**
- **Find ways to keep the existing workforce motivated and engaged and honor the work they do and recognize that they are an essential workforce.**
- **Leverage the opportunity that the COVID-19 pandemic has presented and invest in adding diversity to the workforce by appealing to underrepresented communities, women, and veterans.**

Final Recommendations

#7 New environment created by COVID-19 Pandemic

- **To rapidly launch an aggressive outreach initiative.**
- **To actively promote DOL-approved apprenticeship programs among all stakeholders enabling quick insertion and on-boarding to the workforce.**
- **Pursue attraction of skilled workers through innovative outreach models. Consider ways to create “branding” for the Industry that increases awareness of job and career opportunities for current workers and the unemployed and underemployed.**

List of Programs Evaluated and Featured

- 1. TIRAP (Wireless Infrastructure Association)**
- 2. Independent Electrical Contractors**
- 3. PCCA**
- 4. Alliance at AT&T.**
- 5. Wake Tech**
- 6. Aiken College**
- 7. Professional Bachelors and Masters Program in Telecom (e.g. Uni. of MD)**
- 8. South East Tech:**
- 9. NATE Program with DOL Funding**
- 10. Fiber Optic Association (FOA)- University**
- 11. The Community Technical College system in Wisconsin**
- 12. SEATAC**
- 13. The Last Mile (TLM)**
- 14. Integrated Basic Education and Skills Training (I-BEST)**
- 15. Broadband Academy Online Teaching Model**

List of SMEs

- **Tim Armstrong, Training Facility Manager / *Ericsson***
- **Deb Bennett, Director of Apprenticeship (TIRAP) / *Wireless Infrastructure Association***
- **Scott Crockett, Subcontractor Services / *Ericsson***
- **Mayor Claudia Cubillos, *President Miami Dade County League of Cities / City of El Portal, Florida***
- **Will Durden:, Policy Associate for I-BEST / *Washington State Board for Community and Technical Colleges***
- **Commissioner Keon Hardemon, Vice President of Miami Dade County League of Cities / *City of Miami***
- **Jane Henry, Chief Executive Officer / *SeeHerWork***
- **Commissioner Andreana Jackson / *City of North Bay Village***
- **Peter Janzow, Vice President, Business Development / *Credly***
- **Jon Kerr, Director of Basic Education for Adults / *Washington State Board for Community and Technical Colleges***
- **Paul Kostner, Utility Construction Technician Instructor Broadband Academy / *Wisconsin Indianhead Technical College***

List of SMEs

- **Lesley Liarikos, Vice President / *Towers Systems South***
- **Duane Macentee, Executive Director / *National Wireless Safety Alliance (NWSA)***
- **Shane McBride, Subcontractor Services / *Ericsson***
- **James McQueen , Chief of Staff / *City of Miami District 5, Florida***
- **Chang Menon, Sourcing / *Ericsson***
- **Rod Olson, Chief Executive Officer, *Vernon Communications***
- **Nick Rogness, Director of Engineering and Operations / *Golden West Telecommunications***
- **Cesar Ruiz, President and Chief Executive Officer / *Learning Alliance Corporation***
- **Todd Schlekeway, President and Chief Executive Officer / *National Association of Tower Erectors (NATE)*.**
- **Chris Taylor, Chief Operating Officer / *SeeHer Work***
- **Mark Wilson, Network Operations Manager / *Mitchell Technical Institute***
- **Chad Young: Chief Executive Officer, *Norvado***

Conclusion

- **Broadband technologies will continue to evolve (Wireless and Wireline)**
- **5G is a disruptive technology and is touching all segments of Broadband Ecosystem. No wonder there is a global race for leadership over it.**
 - There is a huge concern that we are experiencing a shortage of skilled workers needed to deploy the infrastructure needed for 5G and other broadband networks.
- **It is critical that all stakeholders - Industry stakeholders and trade associations, the federal, state and local governments, and their agencies, including U.S. DoL, employers, educators, community and technical colleges, and accreditation bodies - work together to define pathways for training opportunities that are aligned with nationally-recognized credentials and that lead to real employment opportunities for the Broadband Industry.**

Industry Engagement KEY for rebranding



Ajit Pai @AjitPaiFCC · Oct 24

I got gray hair climbing a tower just a fraction of the height (about 130 feet) of this one. Major respect to the tower climbers who do this day in, day out. They do the hard, demanding work that helps us stay connected.
[@NATEsafety](#) [@NATEWIN_Network](#) [@WomenNate](#) H/T [@FCCTech](#)

Joaquim Campa @JoaquimCampa · Oct 23

Changing a lightbulb at the top of a television broadcast. There are people who deserves to earn more whatever they earn



0:05 511.5K views



WIA @WIAorg · Oct 21

Proud that a WIA member, Community Wireless Structures, could demonstrate the challenges that exist for compound expansion. Thank you [@BrendanCarrFCC](#) for your focus on wireless infrastructure reforms.

Brendan Carr @BrendanCarrFCC · Oct 21

In Virginia today and met with wireless providers that are working hard to expand high-speed Internet services that can support distance learning for students, telehealth, + more.

The FCC's common sense infrastructure reforms help accelerate these upgrades. #CarrTrip



US Labor Department @USDOL

.@VETS_DOL has awarded more than \$53 million in grants to help homeless veterans seeking to reenter the workforce: [dol.gov/newsroom/relea...](#)



2:16 PM · Jul 1, 2020 · Hootsuite Inc.

30 Retweets 5 Quote Tweets 50 Likes

National Apprenticeship Week

APPRENTICESHIP.GOV



**THE
TIME
IS
NOW**

**TO BUILD A
*HIGHLY SKILLED
HIGHLY TRAINED
FORWARD THINKING
DIVERSE AND BROAD***

WORKFORCE

Leverage social media and be visible!

#ConnectAmericaWorkforce

#BroadbandWorkforce

#WorkforceDevelopment

#TelecomCareers

#Apprenticeships

#CoolJobs

OPEN FLOOR FOR COMMENTS AND DISCUSSION

Challenges Contributing to Skills Gap and Workforce Shortage

- 1. No consolidated brand or identity**
- 2. Lack of standardized and nationwide training programs**
 - Lack of career paths and professional degree programs**
 - Lack of standardization to develop effective curricula**
- 3. Lack of Federal and State funding for training programs**
 - Lack of enterprise investment in training and offset of training expenses**
- 4. Lack of standardized wages and universal credentialing of skilled workers**
- 5. Unique demands of the work: Seasonal, High Liability**
- 6. Dwindling workforce due to retirement**
- 7. New Environment created by COVID-19**

Working Group Charges

- **Develop recommendations to make more widely available and improve job skills training and development opportunities for the broadband infrastructure deployment workforce.**
 1. **Identify any gaps** in broadband infrastructure deployment skills that could inhibit the pace of deployment of **fixed and mobile broadband connectivity** across the nation.
 2. For each issue identified, **formulate possible solutions that stakeholders** could implement. Proposed solutions, to the extent possible, should be **adaptable and scalable** to different deployment areas and technologies to encourage widespread adoption.

Working Group Charges

3. **Recommend possible steps** that stakeholders could take to **attract more skilled professionals** to join the broadband infrastructure deployment workforce.
4. Identify any **existing job skills and training programs** that could serve **as a model** for stakeholders in developing measures to bridge any skills gaps in broadband infrastructure deployment.
5. Recommend possible **performance metrics to gauge the effectiveness** of existing and future job skills and training programs and develop steps that can be taken to continually improve the effectiveness of such programs.