

Building the Foundation For a 5G Future

3-





Wireless Infrastructure Association

Who We Are

- The Wireless Infrastructure Association represents the companies that make up the wireless infrastructure industry in the US
- Founded in 1949, WIA is a leader within the industry, among policy-makers, and within media outlets on issues that impact wireless broadband expansion, IoT, and the fulfillment of 5G
- A **unique** forum for promoting the US's wireless infrastructure agenda among carriers, infrastructure companies, professional service firms, and manufacturers
- Members include wireless and wireline network operators, infrastructure providers, professional services firms, manufacturers, and enterprise companies vested in the advancement of wireless communications



Industry-Driven Leadership

WIA Member Companies Pioneering Wireless Infrastructure Include:

- American Tower
- APC Towers
- AT&T
- CBRE
- CTI Towers
- Crown Castle
- ExteNet Systems
- Google Fiber
- Ingenu
- InSite Wireless
- Lumos Networks
- Phoenix Tower International
- SBA
- T-Mobile
- Verizon
- Vertical Bridge
- Zayo Group
- ZenFi Networks





Our Influence

Every part of our organization is focused on **improving the business climate** for the wireless communications ecosystem.

- State & Federal Relations: Advocating the interests of member companies before Congress, the FCC, and various other agencies
- Removing Regulatory Barriers: Eliminating duplicative reviews for antenna collocation on existing structures and minor upgrades and modifications; streamlining historic preservation reviews, siting on federal lands, and environmental regulations
- 5G: leading the fight to ensure the U.S. is the leader in 5G

5

 Frequency Coordination Services: Participate in FCC dockets where expanding broadband networks, faster broadband speeds, advanced sharing, and sensing capabilities require infrastructure-specific solutions, such as 3.5 GHz, above 4 GHz, and others

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MAY 20-23

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Leading Industry Groups & Initiatives

City Networks Task Force: a partnership with the Smart Cities Council aimed to inform stakeholders on the role of wireline and wireless networks in building smart cities.

Innovation & Technology Council (ITC): a forum for forecasting the future of the wireless industry.

HetNet Forum: where the builders of in-building and outdoor Distributed Antenna Systems (DAS), small cells, and Wi-Fi networks meet.

Infrastructure Developers Forum (IDF): where entrepreneurs active in developing wireless infrastructure meet with investors and partners.

Women's Wireless Leadership Forum (WWLF): a volunteer association for professional women in the wireless communications industry to share their experiess broaden their contacts, and advance their career opportunities.

7

Education & Training



Confidential

TIRAP: A Registered Apprenticeship

WIA is the national sponsor of TIRAP, which is a joint venture of telecommunications companies, industry associations, and the U.S. Department of Labor (DoL) that develops DoL-credentialed apprenticeship programs available to qualified employers for the training and career development of the telecommunications workforce.

- Combines on-the-job training with job-related instruction
- Progressively increases an apprentice's skill level and wages



- Offers workers a path towards a career
- Meets employers' need for a highly skilled workforce



TEC: Telecommunications Education Center

In an effort to provide our industry with a pipeline of trained professionals to meet the needs of the wireless workforce and support the growth and penetration of wireless deployments, WIA is leading a training and education initiative via the **Telecommunications Education Center** (TEC).

TEC's wireless telecom training program and online learning portal:

- is the first initiative of its kind.
- was developed by WIA with significant contributions from academia, subject matter experts, and members.
- includes four key elements prerequisite courses, modules, stand alone courses, and WIA certification.
- offers a unique blended learning environments live instructor-led classroom, live instructor-led webinars, and eLearning.



TEC Online Learning Portal

The learning portal, **www.tec-online.org**, is where students receive access to their course enrollments, online resources, course materials, quizzes, and certifications earned.

This sophisticated tool enables students and employers to track course completion and provides a repository to store certifications, training hours completed, quiz scores and review industry relevant resources.

The TEC team can also provide your organization with summary reports evaluating employee performance.



E TELECOMMUNICATIONS EDUCATION CENTER



TEC-ONLINE.ORG

Workforce Development in the Wireless Telecom Industry



Wireless Infrastructure Association

Skills Gap: Preparing for 5G

5G



Getting Ready for 5G: Preparing a Skilled Workforce for Future Wireless Networks

The transition to 5G could result in:

- \$275 billion in network investment,
- three million new jobs in the U.S. (with 850,000 of those being in telecom),
- and half a trillion dollars added to the GDP.

Specifically, the report identified training and education needed in the following areas:

- RF Principles and Fundamentals
- Spectrum
- LTE and LET-Advanced
- Small Cells and frequency reuse concept of densification
- NFV
- SDN

15

- C-RAN and cell virtualization
- Basic connectivity requirements for IoT



2017 Workshop on Apprenticeships and Workforce Development in the Wireless Industry

FCC Commissioner Brendan Carr spoke before the U.S. DoL and brought up an important question:

 Do we have the skilled workforce in place that can deploy the massive amounts of additional broadband infrastructure necessary to meet consumer demand? We need to make sure that industry has access to the skilled workforce needed to get this transition to next-generation networks across the finish line.

Commissioner Carr also applauded WIA's leadership as the National Sponsor of TIRAP in bringing the apprenticeship model to the wireless sector and its efforts to develop courses and instruction that bridge the skills on topics that are critically important to developing the wireless workforce of the future.



accenturestrategy



- \$275 billion of infrastructure spending, with \$93 billion expected to be spent on construction.
- 50,000 new construction jobs will be created each year over the 7-year buildout period.
- the full impact from construction spending alone could be approximately 120,000 jobs created each year during the first seven years of deployment.



2018 Korn Ferry Future of Work: The Global Talent Crunch

- By 2030, demand for skilled workers will outstrip supply, resulting in a global talent shortage of more than 85.2 million people.
- Signs are already emerging that within two years there won't be enough talent to go around.
- The United States alone could miss out on \$1.748 trillion in revenue due to labor shortages, or roughly **6% of its entire economy.**
- The business implications are clear:
 Governments and organizations need to seriously consider how to educate, train, and upskill their existing workforce. They must act now to mitigate the talent crunch, making people and their development, recruitment, and compensation—a top priority to support sustained growth.

18



More From Korn Ferry, HR Magazine, and IBM

- The United States faces one of the most alarming talent crunches of any country in our study. This is partly because America's population is graying rapidly, with 10,000 baby boomers reaching retirement age each day for the next 19 years.
- US job vacancies hit a record high last year, exceeding six million openings per month.
- Acute global talent shortages are clearly a looming threat, and they're driven by a shortage of skills.
- An IBM study revealed that employees who feel they cannot develop in the company and fulfill their career goals are **12 times more likely to leave the company**.
- The average cost of employee turnover is 213% of their one year's salary. Despite the fact that most organizations know that their long-term advantage resides in their people, most
- Companies that invest \$1,500 on training per employee can see an average of 24% more profit than companies who invest less.



Failure to Train Will Result in Being Left Behind





Solution: TEC and TIRAP

- ✓ Offer coordination across the industry
- Meet industry demand for next-generation wireless deployment
- Provide industry-designed and industry-led employee development to work toward mitigating an industrywide skills gap



The TEC Advantage

Career vs. Job

Allowing companies and individuals to invest in the industry with job training that provides critical skill and promotes career development.

WIA Industry Experts

Leading industry subject matter experts work with individuals, businesses, and training facilities to customize training offerings, tailor curriculums, design customized programs, and provide consultation services.

On-site training and Certification

Employees are offered a unique blended learning environments: Instructor-led training at your facility or via live webinar, virtual environments, and regional training events. Meaning versatility and flexibility in class offerings.



"Today I will do what others won't, so tomorrow I can do what others can't." Jerry Rice Questions or Comments ?

