

**ORAL TESTIMONY: U.S. HOUSE OF REPRESENTATIVES ENERGY & COMMERCE COMMITTEE;
SUBCOMMITTEE ON COMMUNICATIONS & TECHNOLOGY**

Good morning. My name is Basil Alwan; CEO of Tarana Wireless.

It's an honor to appear before leaders who each represent such diverse parts of our country, but all sharing a common purpose -- to efficiently and cost-effectively equip every American family with affordable, reliable, high speed, low latency broadband.

That's the mission of Tarana Wireless, a next generation Fixed Wireless Access technology company both founded and headquartered in the U.S.

I don't presume everyone in this room is familiar with Tarana, so I will weave details about our technologies into the three key messages of my opening statement:

Message One: Technology Advances. This is truly the case at Tarana, a pre-public company founded by a wireless industry veteran and three immigrant PhD Graduate Students in 2009 who had focused their PhD Thesis on how to equip impoverished villagers in Ghana with internet access. They got an "A" and started a company; because that's what we do in America.

Fast forward 15 years and more than \$400 million in privately funded R&D and they cracked the code on two of the fundamental challenges of legacy Fixed Wireless:

*** Breakthrough Technology One:** The ability to reliably deliver very high-speed broadband, Non-Line-of-Sight, between a home or business and a tower. Why is this important? Four of every five U.S. families don't have direct Line of Sight between their home and a tower. There are either permanent or temporary obstructions in the way. Yet our radios adapt to channel conditions 5,000 times every second along many paths, allowing for constant changes — like tree branches waving in the wind, trucks driving by your home, or rain, or snow.

We all use the term "Last Mile." At Tarana, we do much more than a mile.

* When Tarana technology is Direct Line of Sight, we serve customers as far as 22 miles away.

* Near-Line-of-Sight: 10 to 12 miles.

* And full Non-Line-of-Sight, 3 to 6 miles.

*** Breakthrough Technology Two:** Whether in licensed or unlicensed spectrum — and Tarana is in both — the ability to truly ignore radio interference. We call this technology "Asynchronous Burst Interference Cancellation." -- a sophisticated type of "noise cancellation." We don't "jam" other

signals. We just stop listening to other radio conversations, so we can focus on our own. Our interference cancellation technology also allows us to share and use spectrum incredibly efficiently – by a factor of 5x over existing wireless standards - which is fundamental to delivering ultra high-speed broadband in almost any situation.

Our initial product, G1, has now been commercially available for three years. In that short time, Tarana has grown to serve communities in 26 countries and 47 states, through nearly 350 Internet Service Provider partners, with more than 20 million homes passed, adding more than 2,000 connected families every single week.

Message Two: Finances are Finite --- Tarana delivers high-speed, low latency internet at one-tenth of the cost of fiber, while delivering fiber-class service with available plans up to 1Gx500Mbps. To be clear: we agree Fiber is fantastic. In fact, we depend on fiber for our backhaul. Service providers should use fiber wherever it makes sense. Yet when it's too costly, and takes too long to install, as is the case for many US communities due to topography or geography, then the solution should be "Fiber-And";. – leveraging another reliable technology that meets and preferably exceeds the standards.

If we rely solely on one technology, we will run out of money long before we run out of American families who are depending on us to deliver universal service.

Message Three: Timely Deployments Matter -- Tarana's next generation Fixed Wireless Access networks are deployed in weeks or months; while trenched or aerial fiber often takes years.

Please allow me to close with an invitation: We've been honored to visit several of your Districts for what we call "Experiencing is Believing" tours, where -- in about 60 minutes -- you can experience the technology, ask in-depth questions, speak directly with a local ISP serving your constituents and meet with families whose lives have often been transformed by this technology.

Chair McMorris Rodgers, Chair Latta, Representatives Eshoo and Joyce --- thank you for allowing us to provide Live Tech Demos with you in your Districts.

My invitation? We would like to arrange similar visits for each Committee Member in or near your Districts. You deserve to experience, first-hand, American-Invented technologies that can be a part of the solution to bridge the digital divide for every American family -- in a cost-effective and time-efficient way. Thank you.