

2019 — TRANSFORMING TOMORROW

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Spring has arrived and along with April showers and May flowers, the construction season begins to heat-up. Municipalities, Utilities and Telecom Service Providers are finalizing plans and rolling their crews out to bring new services to end-users. And as those crews head out, they'll be stepping into a transitional year setting the stage for years ahead.

A number of trends are driving investments in 2019 and they all converge upon what seems the unstoppable desire for connectivity. The term "Internet of Things" is attributed to Kevin Ashton back in 1999. Since then, it has become one of the most overused terms in our industry—to the point of almost "eye-rolling." But in reality, we have not had an "Internet of Things" but instead "Things on the Internet." True, seamless, mass-connectivity has been lacking along with the computation backbone and ecosystem necessary to make use of a vast web of devices. But one of the things which sets 2019 as a transformational year is that we now have what looks to be the enabling technologies to achieve the promise of a true "Internet of Things." We know about 5G technology and the race to be the first to market—at a corporate and country level. More than just "more bandwidth," 5G brings the promise of low-latency communication and increased capacity through massive Multi-In/Multi-Out (MIMO) capability. All needed to achieve the necessary real-time response for applications such as autonomous vehicles, industrial



automation and augment-reality. Lesser known to the broader populous, but a companion enabler, will be the release of Wi-Fi 6. Both technologies will transform enterprises and enable the creation and expansion of SmartCity and SmartBuilding infrastructures.

At the same time as the industry focuses on this evolution in the urban space, it is estimated that over 20 million Americans lack access to high-speed broadband in the rural space. With broadband access now viewed as the "4th Utility," it is equivalent to lacking electricity a majority of your day. Lack of broadband access has been shown to impact the overall quality of life in a region—impacting economics, education and growth. In response, Utilities, many of which are regional cooperatives,

are looking to leverage their existing infrastructure investments to provide a broadband overlay to their communities.

Foundational to all this—5G in the urban city, Wi-Fi 6 in the high-rise, and quality high-speed access in the rural community—is a fiberbackbone. The promise and the performancerequirements of 5G and Wi-Fi 6 drive the need to a highbandwidth, lowlatency connectivity which simply isn't achievable with today's copper-based technologies. Fiber plays a major role in rural broadband access and provides future-proofing of the network, better long-term OPEX and sustainability, and drives an overall lower carbonfootprint which addresses the critical need for environmentally friendly expansion.

Along with the opportunity in 2019 comes challenges. Our industry is faced with a lot of change—changing technologies, a changing workforce, changing approaches to providing of services. It is estimated that over 200K new workers will enter the telecommunication space over the next two to three years, driving the need for simpler solutions to enable day onesuccess. The 5G promise is also faced with a "Chicken or the Egg" challenge—which comes first, the reliable, fiber-deep network infrastructure or the "killer apps" which leverage it. 5G will require an overall ecosystem to exist—small and macro cell deployment, fiber-based front and back haul buildout, edge-based computing and data centers to support the massive amount of converged data and need for ultra-low latency coupled with the "pulling applications" like self-driving cars, autonomous drones, smart parking meters, augmented reality navigation in the urban space, virtual health care.

This year marks the emergence into a new world of true connectivity and as not only a provider into this space but also a user of the services coming, I am unbelievably excited about not only the year ahead but well beyond. 