

wytec



Executive Summary

2020

Industry Overview

In 2012, the Federal Communications Commission (FCC) predicted that U.S. mobile operators would experience a significant challenge in serving America’s smart devices due to an increase in mobile data usage.

This accelerated growth in data traffic is being driven by a substantial increase in smart device subscriptions, and an increase in data volume per subscription, fueled primarily by the viewing of video content and the proliferation of data-intensive mobile apps. The increase in data volume not only impacts individual data usage but places a substantial stress on America’s communication infrastructure, which is also utilized for securing our country’s government networks connected to homeland security, first responders, public safety, health care, and educational systems. Even before 4G LTE became fully deployed, carrier networks were experiencing data capacity challenges.

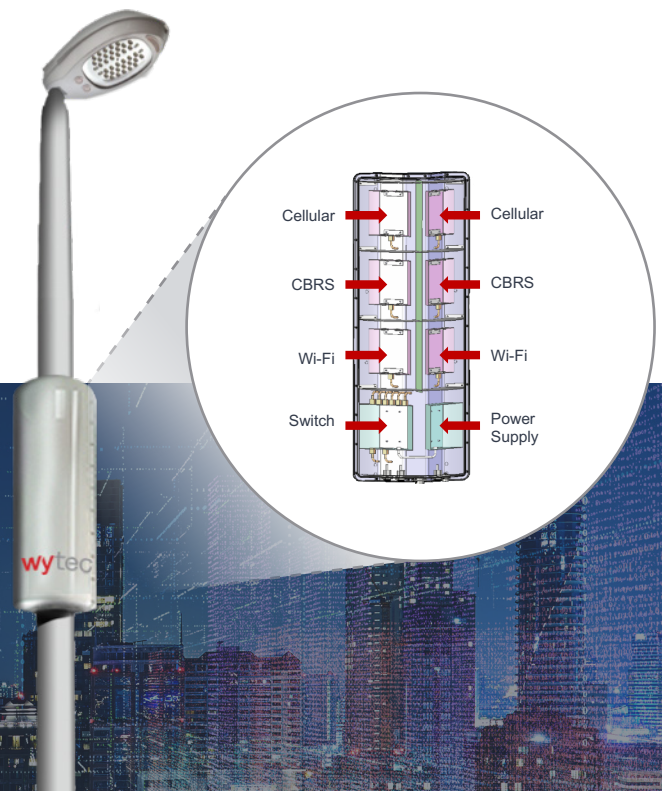
As a result of the need for greater data capacity, cellular carriers have aggressively been pursuing new technologies to manage this massive data demand. The next generation of wireless communication services, 5G, has now been introduced and is touted to be the answer to America’s future communications needs, both for Wi-Fi and cellular connectivity. For the U.S. cellular industry to meet this challenge, a radical change in network architecture is needed.

Today 4G LTE data traffic depends on “Macro” cell towers for virtually all of the country’s cellular transmission. These towers, which are easily recognized across America’s landscape, stand several hundred feet in height and support antennas six to nine feet in length. These mammoth towers cost mobile operators billions of dollars to construct and millions more to operate. Macro towers were originally designed to support cellular signals in a radius of two to three miles or more and provide service for thousands of subscribers. This design is no longer adequate in meeting current consumer demand or the anticipated speeds of 5G.

To overcome this inadequacy, 5G network architecture condenses the coverage area with the use of “Small Cells,” with two primary objectives in mind: to increase data capacity and reduce higher-power transmission signals thus reducing dangerous radiation transmission. Most communication experts agree that Small Cells will be the driving force behind 5G services enabling gigabit speeds on essentially all communication devices, including Smartphones. Small Cells are designed to be mounted on utility poles permitting the flexibility of placement throughout a city supporting citywide ubiquitous coverage. This new architecture has now become the primary infrastructure design for “all” citywide 5G deployments. According to an article by Price Waterhouse Coopers (PwC), “5G networks can’t succeed without a small cell revolution.”

Connectivity for All

Wytec owns patented Small Cell technology known as the “LPN-16”. Its neutral-host design is its key differentiation from other Small Cell technologies, with its ability to support multiple spectrum usage owned and utilized by multiple mobile operators simultaneously. This multi-operator architecture is overwhelmingly accepted by city governments due to the reduced need for utility poles as compared to a single-operator Small Cell. Carriers are expected to overwhelmingly accept this due to a substantially reduced installation cost and speed of deployment.



Wytec owns patented Small Cell technology known as the “LPN-16”. Its neutral-host design is its key differentiation from other Small Cell technologies


Another key feature and differentiation of Wytec’s LPN-16 design is its integration with private LTE networks. Already, the City of San Antonio, in a recent article, has indicated a major initiative in deploying a citywide private network to be integrated with its school districts in support of greater distance learning capabilities and increased public safety. Though much of the funding support could rely on federal relief programs, Wytec believes that it can present a way of “self-funding” these needed initiatives through a collaboration involving existing Independent School Districts’ (“ISDs”) and their federal funds (already in place), revenue derived from a private LTE network (owned by both the city and ISD), and private funding from the capital markets.

Today, carriers dominate the mobile cellular industry, but due to 5G deployment requiring Small Cells to be installed on utility poles, city governments have significant influence over Small Cell deployments due to “right of way” regulations requiring pole access. This legal authority has had a major impact on the anemic speed of 5G deployment to date throughout America’s cities. The cities’ major concerns on the deployment of Small Cells have been the vast number of pole access requests from the carriers, potentially creating a public outcry on both esthetics and safety concerns. Wytec’s LPN-16 diminishes these concerns due to its multi-carrier features allowing for multiple operators to gain access to poles and to utilize the network simultaneously.

Wytec’s Predictable Revenue Opportunities

In October 2019, Wytec participated in a Request for Proposal (the “Proposal”) from the Laredo ISD in Laredo, Texas involving an enhanced cellular solution for the ISD. Laredo ISD is a member of the Central Texas Purchasing Alliance (CTPA) consisting of 150 ISDs. The Laredo ISD issued the Proposal under a special “procurement process” allowing for all 150 ISDs to accept the winning bid from one vendor. Wytec won the bid on the Proposal and is now the “only” approved vendor for the chosen technology.

The CTPA Project



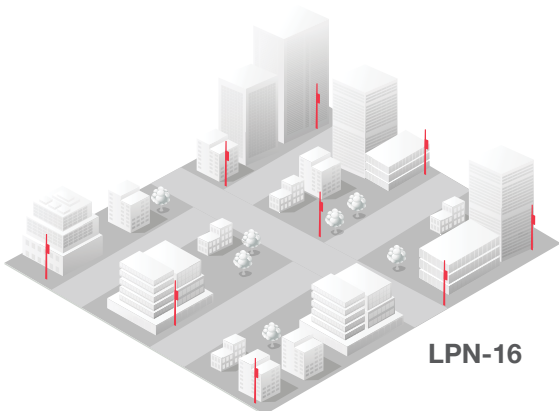
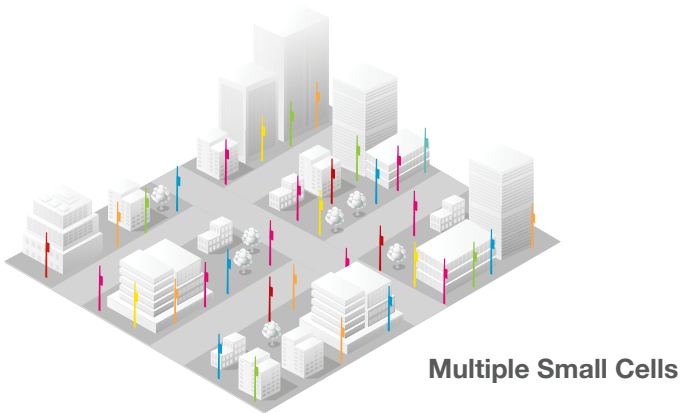
4,306 Buildings

513,270,000 Square Feet

\$195,465,771

Estimead revenue over three-year period

The total number of buildings within the CTPA consists of 4,306 buildings, representing approximately 513,270,000 square feet, at a winning bid of \$0.39 per square foot, producing a total CTPA buildout estimated to be approximately \$195,465,771 over a three-year period, potentially generating that much gross revenue for Wytec and its subcontractors. Wytec is now building out its third school district under this contract and is aligning itself to manage a more aggressive build-out over the coming three-year period. In addition to the current cellular enhancement service provided by Wytec to CTPA, the Company has received strong interest from CTPA members to construct a private LTE solution (to include Wytec’s patented LPN-16), potentially representing substantially greater revenue opportunities for Wytec.



In addition to Wytec’s revenue potential involving cellular enhancement and private LTE, the Company plans to utilize its LPN-16 technology to provide wholesale services to Mobile Virtual Network Operators (MVNO), predominately in the cable industry. Today, cable operators are aggressively pursuing mobile product (Smartphones) solutions due to their eroding subscriber base to the carriers. This mobile service is currently offered to cable operators by virtually all carriers, but the cable operators struggle to achieve acceptable profit margins with it due to the current absence of multi-operator neutral host Small Cell technology for the networks, a weakness Wytec believes will be remedied by its LPN-16 Small Cell technology. Indeed, Wytec anticipates wide acceptance of the LPN-16 by city governments due to its multi-carrier service capability. There are 450 cable operators aggressively pursuing MVNO services in the U.S. This initiative by cable operators is anticipated to create a substantial revenue potential to Wytec.

By 2026 the Small Cell
5G Market will reach 
\$6.87 Billion

As described above, Wytec’s LPN-16 Small Cell offers two significant revenue opportunities involving both a potential sale of the LPN-16 to private LTE clients (such as schools and cities) and as a 5G, Wytec owned network, supporting MVNO wholesale clients such as the cable industry. In a recent publication by Allied Market Research, studies suggest that the Small Cell 5G Market will reach \$6.87 billion by 2026.

National Security Implications

It is no secret that the federal government has identified 5G technology as a high priority. More than \$180 billion has been allocated to various components of 5G with cyber-security being at the top. A great concern expressed by the top levels of our federal intelligence divisions has been an eventual attack on America’s power grid, essentially bringing down our primary economic infrastructure, including a substantial interference with America’s financial markets, educational, health, and transportation systems. Recent reports indicate that the total potential cost of this type of cybercrime could exceed \$500 billion dollars.

Wytec Signs with SwRI

To address these public safety concerns, Wytec recently entered into a Contractor Service Agreement with Southwest Research Institute (SwRI), in support of efforts to eradicate potential cyber-attacks on America’s communications networks. SwRI, a member of the Joint Base San Antonio (JBSA) groups, has invited Wytec to utilize its LPN-16 Small Cell as an open architecture project to begin testing a government approved 5G solution involving communication vulnerabilities, multi-carrier, multi-spectrum private LTE solutions, and 5G military mobile applications.

On June 3, 2020, the Department of Defense (DoD) selected the JBSA as a 5G Security Experimentation site, identifying the critical importance of 5G in military and civilian applications. In the announcement, Joseph Evans, DoD Technical Director for 5G, said, “5G technology is vital to maintaining America’s military and economic advantages.” Wytec is thrilled to be engaged with SwRI and the 5G JBSA working group to include the testing of safety and security measures with the LPN-16 that will further America’s data security and military needs, as well as assist in protecting America’s city and school systems.

The Department of Defense (DoD) selects JBSA to begin 5G testing in San Antonio



With the increased capabilities of private LTE networks, edge computing technology, and network slicing, Wytec's LPN-16 can increase network intelligence to security measures, which will be tested in the upcoming San Antonio, Texas trials. This technology will be capable of recognizing data intrusions far sooner and stop potential cyber-attacks long before incurring serious damage and devastating costs to the U.S. economy.

Wytec's LPN-16 has been in significant trials for more than two years and is now preparing to launch multiple 5G deployments to combat cyber-attack efforts and support multiple IOT applications. Applications will include advanced public safety measures such as smart video surveillance, gun-shot detection and cyber-attack protection on America's power grid while providing advanced technologies for medical facilities, commercial buildings, education districts, and cities with private LTE technology. Included in its most recent trials, Wytec received FCC approval to test commercial access to the Citizens Broadband Radio Service (CBRS), which was originally authorized for the US Navy radar operators and fixed satellite service providers. In September 2019, the FCC commercialized the CBRS spectrum in the General Authorized Access (GAA) band thereby allowing Wytec to utilize this neutral-host spectrum for its technology trials prior to a citywide deployment.



With the increased capabilities of private LTE networks, edge computing technology, and network slicing, Wytec's LPN-16 can increase network intelligence to security measures

Capital Need Assumptions

Capital Need Assumptions Wytec has funded much of its previous operations through a limited number of private placement offerings. The Use of Proceeds have funded the development of the Company's previous revenue opportunities including the Independent School Districts and other high profile projects such as the Johnson Space Center and the Fountain Place.

Learn more about Wytec's offerings and how to invest.

Invest in Wytec

This summary may contain forward-looking statements and projections relating to the potential future operating results or financial condition of the company. Please be advised that the company's actual financial condition, operating results and business performance may differ materially from those projected or from those which may be inferred by any forward-looking statements, forecasts or historical information. There is no assurance that the company will achieve the financial results indicated in the forward-looking statements or in historical information. There is no assurance that the company will be profitable, that it will earn revenues or that investors will receive a return of their capital or any cash distributions. Any projections are estimates only based on assumptions which may prove to be incorrect. See "risk factors" in the memorandum.

