NODABL Networks
NODABL Networks, Inc.

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Tell us about the problem you are solving

This is your opportunity to wow and inspire investors. Some fields will be optional, but we highly recommend you complete most or all fields to paint the best and clearest picture of your business to investors.

Summary

Edit

NODABL Networks provides **private LTE and 5G** broadband networks **"as a service",** enabling enterprises and communities to **leverage the power of data** through digital transformation of their operations.

Key reasons to invest:

- **Market Pull.** Growing interest from enterprise and local government customers who are discovering that private LTE/5G wireless networks are affordable and critical to the digital transformation of their operations.
- **State-of-the-art Solutions.** Best-in-class technologies through channel partner relationships with world class OEMs (Original Equipment Manufacturers) such as Motorola Solutions and Nokia, who pioneered cellular technology.
- **Go-to-Market Ecosystem.** NODABL has established extensive "development partnerships" to address a diverse set of verticals including K-12 and higher education, local and tribal governments, healthcare, hospitality, utilities, and manufacturing.
- **Attractive Financials.** Typical network sale ranges from $ 0.5M to $ 3.5M in CAPEX at ~40% gross margins and is accompanied by a 3- to 10-year recurring revenue stream from managed services.
- **Perfect Storm.** Covid-19 pandemic highlighted the criticality of broadband for the economy. Release of 150 MHz of CBRS spectrum by FCC for unlicensed access and cloud hosting of core network functions make private networks affordable for small and large enterprises alike.
- **Experienced Team.** NODABL founders and principals together bring over 75 years of experience in broadband fiber, wireless networks, telecommunications, and deregulated energy markets.

Problem

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Broadband is the Lifeblood of the Modern Economy, and Yet is Not Widely Available

- **Enabling Industry 4.0 "The Fourth Industrial Revolution."** In order to leverage the power of data through analytics and artificial intelligence, enterprises need secure networks that provide **mobility**, real time **visibility** to operational data, and the **ability to instantly communicate** with "man or machine" via voice, video, and data.
- **Addressing the Digital Divide.** The Covid-19 pandemic demonstrated that **broadband**

- **Addressing the Digital Divide:** The COVID-19 pandemic demonstrated that **broadband connectivity is the lifeblood of the modern economy.** It also highlighted the inequality that exists in broadband access in rural and underserved urban/suburban communities across the nation.
- **Streamlining Connectivity.** Enterprises today face indeterminate **security risks, uncontrolled costs,** and **unmanageable operational complexity.** Currently, enterprise broadband is a **hodge-podge** of various wired, wireless, and radio communications.
- **Standards Based Solutions.** There is an **urgent need** within enterprises and local governments alike for secure, lightning-fast, and standards-based broadband wireless networks. We offer solutions that deliver the control, predictability, and security of wired connectivity (such as ethernet or fiber) combined with the mobility, scalability, and ease of implementation of wireless.

Solution

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Hassle-free Network Ownership with End-to-End Services.

Enterprise Campus Networks

- Deploy an "overlay" 5G/LTE broadband network to support business-critical applications behind a secure enterprise firewall.
- Enterprises maintain full control over the network without being burdened with the task of operating a complex cellular network
- NODABL provides customized solutions leveraging technologies from OEMs such as **Nokia, Motorola Solutions, and Celona.**

Wide Area Networks

- Targeted at non-campus applications such as K-12 remote learning, wireless access in rural and underserved communities, and smart city/smart county networks
- NODABL custom designs networks based on **Coverage**, **Capacity**, and **Cost**.

Product

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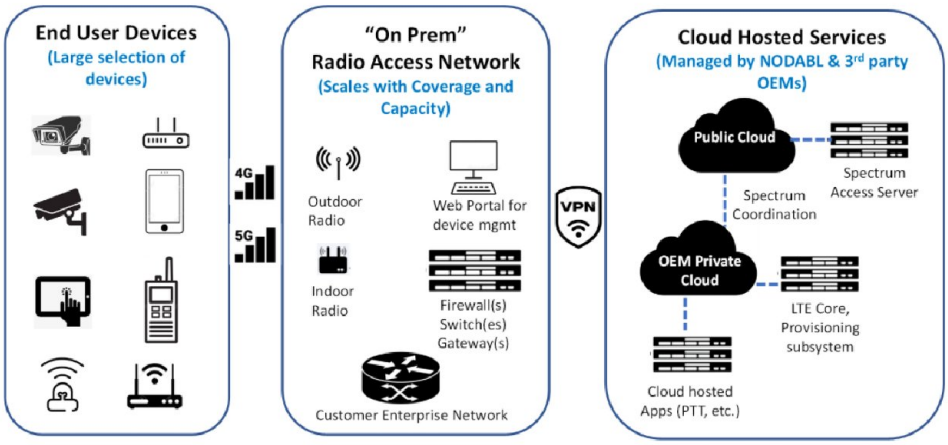
Cloud Hosted Private 5G/LTE Cellular Networks and Applications Offered as a Managed Service.



As shown in the figure above, our product comprises of **three main components**, namely,

1. **On-Premises Radio Access Network** (RAN) deployed at the customer site and comprising of indoor and outdoor radios, networking equipment such as firewalls, switches, and gateways, and a web-based portal for device management. The RAN uses 150 MHz of CBRS (Citizens Broadband Radio System) Band 48 unlicensed spectrum between 3.55 and 3.70 GHz.
2. **Cloud Hosted Services** that include LTE/5G core functions of network control, security, access management, communication between the private network and outside networks including the internet, spectrum coordination functions, and cloud hosted applications. The LTE core is connected to each customer's RAN via a secure Virtual Private Network (VPN) connection.
3. **End User Devices** such as compatible radios, smartphones, tablets, computers, video cameras, sensors, etc. that are deployed at the customer's site and connect to the network.

While NODABL offers solutions from multiple world class OEMs, the network architecture for each is generally similar to that described above. Customers can select from a large variety of CBRS Band 48 enabled end user devices that work on the network including Apple, Samsung, Google, Motorola Solutions, and more.

5G in a Box

NODABL believes that the early successful 5G deployments are going to be **self-contained networks in enterprise environments** such as manufacturing, distribution centers, warehouses, etc. where automation provides a competitive edge. For such use cases, **NODABL is developing a rapidly deployable "5G-in-a-Box" indoor/outdoor solution using the CBRS spectrum.**

Exemplary Use Cases:

1. Distance Learning

The Covid-19 pandemic highlighted the inequality that exists for broadband access in rural and unserved urban/suburban communities across the nation. When school districts were forced to

close schools and implement distance learning, they realized that many students in poor communities did not have adequate broadband access in their homes. Schools looking to remedy the situation turn to NODABL for private wireless 4G/LTE and 5G networks to extend the secure and excellent broadband access available at schools into the students' homes.

2. Industry 4.0

Enterprises today face indeterminate risks, uncontrolled costs, and unmanageable operational complexity because their broadband connectivity is a hodge-podge of cellular connectivity provided by nationwide wireless carriers, wired services provided by Internet Service Providers (ISPs), enterprise owned wired and WiFi networks, wired IP security cameras, and walkie-talkie style two-way radio communications. Enterprises who want to leverage the power of data through Analytics and Artificial Intelligence look to NODABL for secure networks that provide mobility, real time visibility to operational data, and the ability to instantly communicate with "man or machine" via voice, video, and data.

3. Smart City Networks

Cities large and small across the nation are looking to improve operational efficiencies, provide free broadband access in public spaces, and offer its residents smart city services. Such cities are turning to NODABL to implement city wide wireless networks that the cities can use for business critical narrowband, broadband, and IoT (Internet of Things) applications.

Business Model

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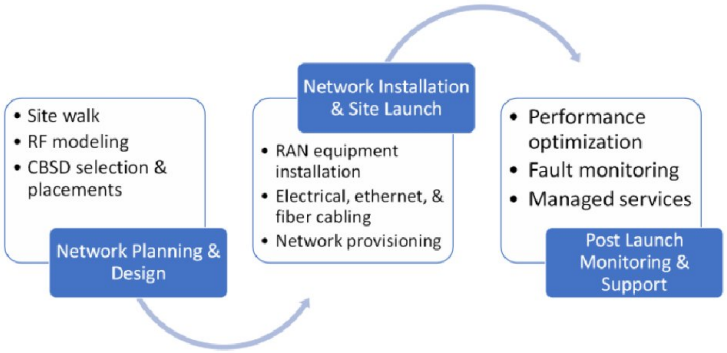
Turnkey managed services with flexible ownership models.

As shown in the figure below, NODABL offers turnkey network and services including from Network Planning & Design to Network Installation & Site Launch to Post Launch Network Monitoring & Support.



NODABL offers CAPEX or OPEX/Subscription centric ownership models including full 3rd party network financing. Each network sale requires a multi-year managed services contract for hosted core services.

USE OF FUNDS

NODABL's planned use of funds is shown in the table below for **$ 50 K**, **$ 250K**, **$ 500K and $ 1000K** campaigns. Most **monies raised irrespective of the target reached will be deployed towards revenue generating tasks** of acquiring customers (e.g., Business Development, Pre-Sales Engineering, and Marketing). Since spectrum is a key asset for wireless networks, NODABL

plans to use the Spectrum License Reserve funds to opportunistically acquire or license spectrum in rural geographically strategic markets. NODABL typically expends a lot of funds in pre-sales as the initial network design and modeling for target customers is done without charge to the customer. The working capital reserve allows NODABL to outsource some tasks, aggressively pursue new opportunities, and bridge the gap between accounts receivables and NODABL expenses.

	Amount Raised							
	$50,000		$250,000		$500,000		$1,000,000	
Target Spend	Percentage	Amount	Percentage	Amount	Percentage	Amount	Percentage	Amount
Capital Raise Cost	8.5%	$ 4,250	10.0%	$ 25,000	8.5%	$42,500	8.5%	$85,000
Business Development	35.0%	$ 17,500	20.0%	$ 50,000	15.0%	$75,000	15.0%	$150,000
Legal & Marketing	10.0%	$ 5,000	10.0%	$ 25,000	8.0%	$40,000	5.0%	$50,000
Pre-Sales Engineering	30.0%	$ 15,000	30.0%	$ 75,000	20.0%	$100,000	15.0%	$150,000
Business Processes	1.5%	$ 750	15.0%	$ 37,500	8.5%	$42,500	7.0%	$70,000
Working Capital Reserve	15.0%	$ 7,500	15.0%	$ 37,500	10.0%	$50,000	9.5%	$95,000
Staff Compensation	0.0%	$ -	0.0%	$ -	15.0%	$75,000	20.0%	$200,000
Spectrum License Reserve	0.0%	$ -	0.0%	$ -	15.0%	$75,000	20.0%	$200,000
Totals	**100.0%**	**$ 50,000**	**100.0%**	**$ 250,000**	**100.0%**	**$ 500,000**	**100.0%**	**$ 1,000,000**

Traction

Edit

Consolidating first mover advantage across multiple verticals!

NODABL is **moving quickly** to **secure customer wins** across **multiple industry verticals.**

NODABL has designed a broadband wireless network for the **City of Lancaster, TX,** that covers 18 of 33 city square miles. The network is designed to provide area residents, businesses, visitors, and city facilities and staff with both fixed and mobile wireless broadband services and internet access including free WiFi access in public parks. The network CAPEX is valued at $ 1.754 M with a 10-year deal value to NODABL of $ 3.438 M.

NODABL has made a $ 371 K proposal to WHIZ-Q Stone – the largest landscape retailer in the Dallas – Ft Worth metroplex. On the 25-acre retail property NODABL has proposed a network that provides a voice, video, data communications solution along with video surveillance and asset/inventory management.

The **City of DeSoto, TX,** seeks to provide free public WiFi access in city parks. NODABL has designed a network for the city that covers 12 city parks. The network has a CAPEX value of $ 1.3 M and a 10-year deal value to NODABL of $ 1.917 M.

Broadband connectivity on tribal lands is notoriously poor. NODABL is working in partnership with Yalti Telecom (a local Navajo company) to bring broadband connectivity to communities on the **27,000 square mile Navajo Nation**. Yalti Telecom and NODABL together are preparing a grant proposal to rollout the network first at 7 of 110 Navajo Nation Chapters. Estimates are that each chapter rollout will be between $ 1.5M to $ 2.0M. The network is expected to be funded from monies received by the Navajo Nation from the America Rescue Plan Act or from the Tribal Broadband Connectivity Program of the FCC.

In addition to the opportunities highlighted above, NODABL is pursuing other school districts, counties, cities, and enterprises through its ecosystem of development partners.

Competition

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Greenfield technology with competing OEMs seeking specialist channel partners like NODABL

Competing Technologies

There are two competing technology alternatives for private 4G/5G networks, namely, WiFi and public cellular. WiFi connectivity works well indoors but does not scale well for performance and cost for large outdoor campus environments. Furthermore, WiFi is not very secure, and its Quality of Service (QoS) deteriorates as the number of users increases. Public cellular networks from nationwide carriers are excellent for wide area coverage but they do not scale down well for campus level and indoor coverage. **The private cellular 4G/5G networks offered by NODABL provide the best of both the WiFi and public cellular worlds**: for indoor and outdoor coverage; security; bandwidth; and Quality of Service.

Carrier Competition

Among the three nationwide cellular carriers in the U.S. (Verizon, AT&T, and T-Mobile), only **Verizon has publicly announced plans to offer private cellular networks to enterprises.** Because each private cellular network needs to be custom designed, installed, and supported with managed services, we believe that the high carrier overhead costs will make such networks from carriers unaffordable except for the largest enterprises.

NODABL seeks to fill the gap in serving enterprises by providing a state-of-the-art customized solution to fit the various needs of businesses.

CBRS OEMs

There are presently 10 to 12 OEMs who offer cloud hosted 4G/5G networks using the CBRS spectrum including, Nokia, Motorola Solutions, Ericsson, JMA Wireless, Cradlepoint, Celona, Lemko Corporation, Geoverse, and Athonet (Italy based). NODABL currently has Channel Partner/System Integrator (CP/SI) relationships with four, namely, Motorola Solutions, Nokia, Celona, and Lemko, thus co-opting them as go-to-market partners and eliminating them as competitors. **With our laser focus on private 4G/5G networks,** NODABL expects to add Ericsson and JMA Wireless as technology partners in the future - making NODABL a solution provider with the largest number of OEM relationships for cloud hosted private networks.

CBRS OEM Channel Partners

The typical OEM go-to-market model is either via direct sale or through channel partners such as NODABL. Except for large nationwide accounts, major OEMs such as **Nokia, Motorola Solutions, and Ericsson** prefer to sell solutions through channel partners. As such, NODABL's direct competitors are other OEM channel partners. Notable direct competitors of NODABL include Bearcom (a Motorola Nitro channel partner), NetSync and Presidio (Nokia resellers), and Boingo Wireless (an established WiFi player now offering CBRS solutions).

Market

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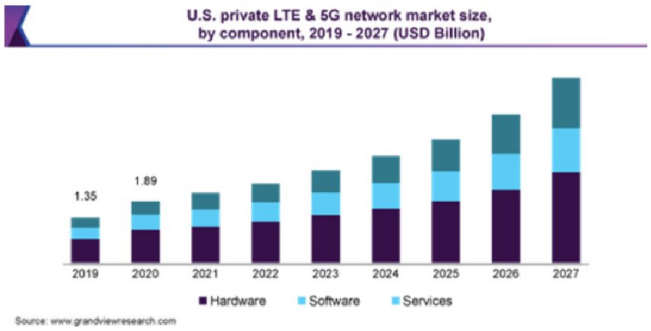
Network-as-a-Service is a new offering with tremendous growth potential across multiple verticals!

The availability of 150 MHz of unlicensed/lightly licensed CBRS spectrum on a county-by-county basis removed spectrum as an entry barrier and made possible for companies such as NODABL to offer ***Cloud Hosted Private Cellular Networks***. Most industry analysts predict that growth of private cellular 5G networks in the U.S. will outpace carrier 5G deployments. The chart below from *Grandview Research* shows the explosive growth predicted for Private LTE and 5G networks from 2019 to 2027 with a compound annual growth rate (CAGR) of 17%. The growth is fueled in part by the availability of the CBRS spectrum and the growth in Internet of Things (IoT) applications across numerous industry verticals including manufacturing, energy, warehousing, transportation & logistics, and smart cities. NODABL expects to secure revenue from both hardware and services sales in our target verticals.



NODABL's focus is on K-12 and higher education, local and tribal government, healthcare, hospitality, manufacturing, and utilities verticals. The Total Available Market (TAM) and Serviceable Available Market (SAM) in a few representative verticals is discussed below.

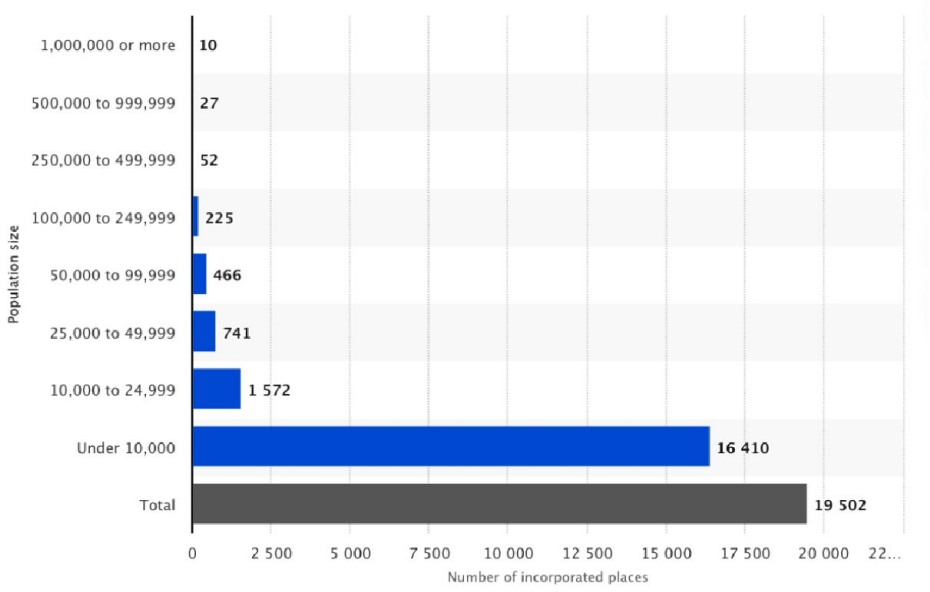
K-12 Opportunity

The Covid-19 pandemic highlighted unique challenges for K-12 Distance Learning that can be addressed using private networks. There are currently 16,800 school districts in the U.S. representing the TAM in the K-12 vertical. Due to the vast sums of grant money directed at K-12 schools by the Federal government through CARES Act, CARES Act II, and America Rescue Plan Act, **school districts are looking to rapidly deploy Distance Learning technologies.** A conservative estimate is that at least 30% of school districts will opt to implement Distance Learning technologies for a SAM of 3,360 school districts. At a modest **3%** estimate for NODABL market capture, NODABL has the opportunity to deploy ~ 100 networks throughout the country in the next three years. At an average network sale CAPEX of $ 1.5M, this **represents a NODABL**

revenue opportunity of $150 M over the next three years.

Local Government Opportunity

NODABL is targeting **Tier 3 and 4 cities** with populations **between 10,000 to 50,000** for **Smart City/Community Broadband networks.** The chart below is a histogram of the number of cities with different population sizes. There are 2313 cities in the U.S. with populations between 10,000 and 50,000 representing the serviceable market (SAM) for NODABL in this vertical. At a modest estimate of **3%** market capture, NODABL has an opportunity to deploy ~ 70 networks throughout the country over the next three years. At an average CAPEX of $3M per deployment, **this vertical represents a NODABL revenue opportunity of $ 210 M over the next three years.**



Company Vision

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Preferred nationwide provider of broadband networks and services that enable people, communities, and enterprises to flourish

The technology transition from 4G to 5G, release of large quantities of spectrum for commercial use by the FCC, and cloud hosting of core network services have created a perfect storm of opportunity for private wireless networks. With foresight derived from 75+ years of collective experience in wireless, fiber, and cellular networks, NODABL founders intend to disrupt established nationwide wireless and wireline network operators by offering a cost-effective mobile network alternative to large and small enterprises and traditionally underserved communities.

NODABL intends to leverage its first mover advantage and partnerships with world class OEMs to become the pre-eminent provider of private wireless networks and services nationwide. NODABL plans to build the business for the long haul and will focus on innovation, operational excellence, and as a trusted advisor to customers.

Press

Edit

NODABL Offers Secure, Reliable Private Broadband in Waxahachie, Texas, Central Business District

First Motorola Solutions Nitro Network in Texas Delivers Greater Bandwidth, Data Speed, and Resilience

WAXAHACHIE, Texas – September 14, 2020 - NODABL Networks LLC (NODABL) today announced the deployment of the first Motorola Solutions Nitro private broadband network in Texas. The network was commissioned August 26, 2020, at NODABL offices in Waxahachie. In addition to showcasing compelling business-critical voice, video, and data use cases along with the return on investment (ROI) of private broadband networks to customers, NODABL plans to offer secure broadband access to select businesses, county offices, and other establishments in the Waxahachie Central Business District coverage area.

The Nitro network utilizes up to 150 MHz of Citizens Broadband Radio Service (CBRS) Band 48 spectrum to deliver cloud-hosted, lightning-fast, enterprise-grade, private 4G/LTE with high level of security, mobility, coverage, and capacity. The network is always under the full control of the customer, and business-critical data stays behind the enterprise firewall never leaving the customer's premises. The network is professionally managed 24/7 in the cloud, allowing customers to focus on their core business functions.

"Broadband connectivity on enterprise campuses today is a hodge-podge of cellular connectivity provided by wireless carriers, wired internet access provided by Internet Service Providers, enterprise-owned WiFi networks, and walkie-talkie style two-way radio communications" observed Dr. Aroon Tungare, CEO of NODABL Networks. "Motorola Solutions provides most business-critical services on a single network. Furthermore, the Nitro network is interoperable with MOTOTRBO™ digital mobile radios and carrier LTE."

"We are pleased to have NODABL Networks as a nationwide go-to-market partner because of its extensive experience with network planning and design, system integration, network commissioning, and customer support " said Andy Byrne, vice president of strategic sales, Motorola Solutions. "Nitro is an end-to-end solution that provides businesses with the unique opportunity to leverage private broadband for voice and data communications, connect a wide range of devices, and exercise control over their network."

NODABL offers Nitro to customers via a "Network as a Managed Service" business model that can be flexibly designed to suit customers' needs.

About NODABL Networks: NODABL Networks is a nationwide provider of broadband networks and services that enable people, communities, and enterprises to flourish. NODABL provides custom designed, enterprise grade, private LTE and 5G networks and services using world class technology partners. Learn more at www.nodabl.com.

Media Contacts:

NODABL Networks LLC
Texzon Utilities, Ltd
Mr. Marc Metteauer

Founders

Edit

Aroon Tungare - CEO & President

Dr. Aroon Tungare is a wireless industry veteran who is widely credited for driving miniaturization of the mobile phone to its current elegant form factor and for implementing some of the smarts seen in today's smartphones. As Chief Executive Officer, Dr. Tungare's mission is to make NODABL the preferred partner for broadband networks and services that enable people, communities, and businesses to flourish, and thus create significant economic value for NODABL's customers, investors, and other stakeholders.

Dr. Tungare is also the founder and president of Batwing Innovations-a technology and business strategy consultancy that has helped clients in disparate industries understand and harness disruptive emerging technologies. Dr. Tungare previously spent 19 years at Motorola in leadership roles in R&D, Product Innovation, and IPR, and contributed richly to several of Motorola's most iconic product launches including the RAZR. Post Motorola, Dr. Tungare joined Sonim Technologies as the vice president of portfolio strategy and product management, and assisted the leadership team with SEC filings to take the company public on NASDAQ in May 2019.

Dr. Tungare is a prolific inventor and holds 19 U.S. patents. He has a Ph.D. in Engineering from Syracuse University and a B.S. in Chemical Engineering from the Indian Institute of Technology, Bombay. Dr. Tungare has been recognized by the U.S. Electronics Industry with its prestigious IPC President's Award. He presently resides with his wife in the Chicago area, and has two daughters who have followed in his engineering footsteps.

Steve Wilson - Chairman, Treasurer, & Secretary

Mr. Steve Wilson is a veteran of fiber optics communications and deregulated electricity industries. As Chairman of NODABL's Management Board, Mr. Wilson provides strategic guidance to the company as it marches forward on its 5G journey.

Mr. Wilson is also founder and Chief Executive Officer of Texzon Utilities, Ltd. Texzon, founded in 2002, sells and markets commercial electricity in deregulated markets across the U.S. In 2008, Texzon was recognized as one of the fastest growing private companies in the U.S. by Entrepreneur and Inc. magazines.

Always a visionary, Mr. Wilson supported early stage development of a scientific breakthrough for wireless electricity transmission. In his early career Mr. Wilson worked for several companies, including Ericsson, Light-Net, MCI, and Wil-Tel. He rose through the ranks starting out as a fiber

optic technician/splicer, engineer, project manager, and eventually as Vice president of engineering, site development, and construction of large Telecom Data Centers nationwide.

Mr. Wilson currently serves on two Non-Profit Ministry Boards, 4 tech company Boards, and resides in Ennis, TX. He has been married for 41 years, has three children, and one grandchild.