Getting to Smart – New Orleans

Louisiana has been one of the most prepared states to address the federal funding opportunities and has already facilitated the award of over $175 million in funding for new broadband networks. This workshop will share the latest on the federal, state and local perspectives. Thomas Tyler of Louisiana's Broadband Office and Kim Walker LaGrue, CIO, New Orleans will lead the discussion.

Featured Speakers

THOMAS TYLER
Deputy Director | *ConnectLA*

KIM WALKER LAGRUE
CIO | *City of New Orelans*

PRESENTED BY: GraybaR

www.DenseNetworks.com

12:15 Welcome Peter Murray, Executive Director, Dense Networks

12:20 Federal Broadband Funding Andy Lipman, Lead Attorney, Morgan, Lewis

12:45 Lunch

1:15 Broadband and Digital Equity

Kim Lagrue Walker, CIO, New Orleans

Thomas Tyler, Deputy Director, Louisiana Broadband Office

2:00 Network Innovations-Fiber and CBRS/Private Cellular for Broadband and IoT

Moderator: Peter Murray, Executive Director, Dense Networks

Eric Toenjes, Wireless Market Manager, Graybar

Jim Jacobellis, SVP, ALEF

Greg Spraetz, CRO, Network Connex

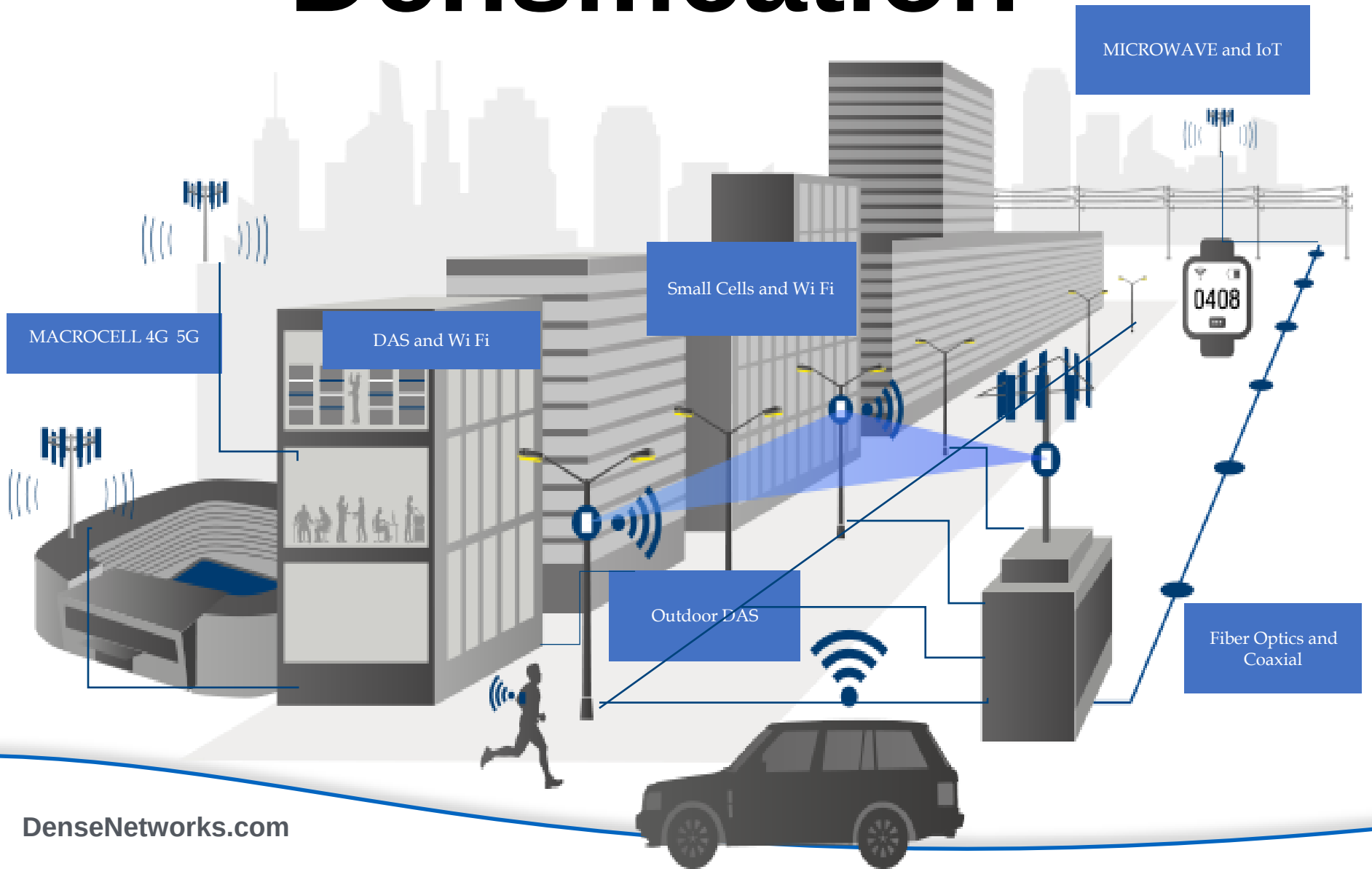
Oren Binder, Director, OnGo Alliance

Jamaal Smith, VP, Kajeet

2:45 Closing Comments


Connected City
Smart City

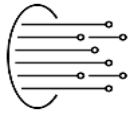
Densification



Digital Infrastructure

Scalable/Interconnected

Fiber	IoT	Cell-Macro, Small & DAS	Wi Fi	Private LTE & 5G	Smart Poles	Devices



NB-IoT

LoRa®

LTE

Lighting +

Cameras

Kiosks

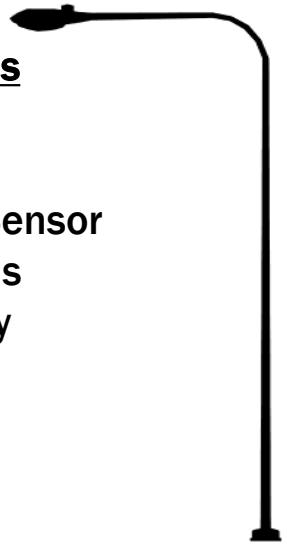
Computers/Tablets

Sensors

San Jose Broadband Strategy

STREETLIGHT

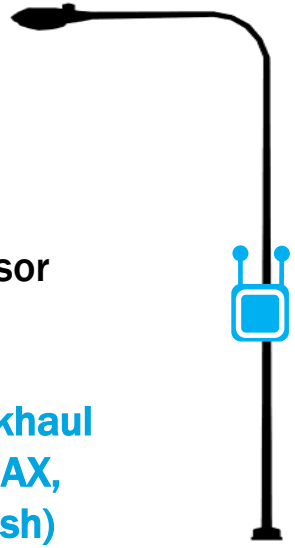
Light/Safety



Properties
- Height
- Power
- Light Sensor
- Lumens
- Density

SMALL CELLs

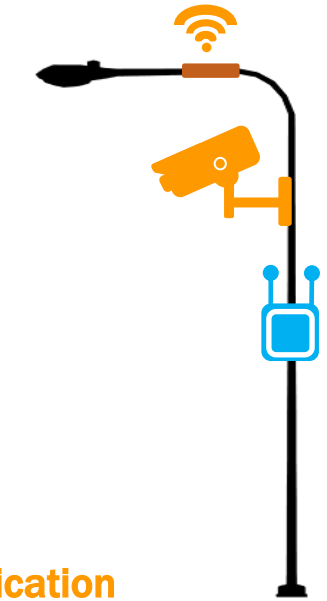
Broadband Digital Infrastructure



Properties
- Height
- Power
- Light Sensor
- Lumens
- Density
- Data Backhaul (Fiber, COAX, Radio mesh)

INTERNET OF THINGS

Smart Cities



Properties
- Height
- Power
- Light Sensor
- Lumens
- Density
- Data Backhaul
- Sensors
- Cameras
- 2-way Communication
- Banner Advertising

Maturity:	**Mature**	**Emerging**	**Extremely Immature**
Possible Action:	**Proceed w/ LED Light Replacement Only**	**Re-examine in Broadband Strategy**	**Seek to Understand with Knight IoT Grant**

SmartBlockPHL: Midtown Village

A collaborative effort among Comcast, US Ignite, and Philadelphia to deploy a multi-pronged solution designed to meet the needs of several stakeholders. The demonstration project entails retrofitting luminaires and sensors onto pre-existing streetlight poles. This project will deliver new insights to Philadelphia, its residents, and its partners in the business and the community.

Fast Facts:

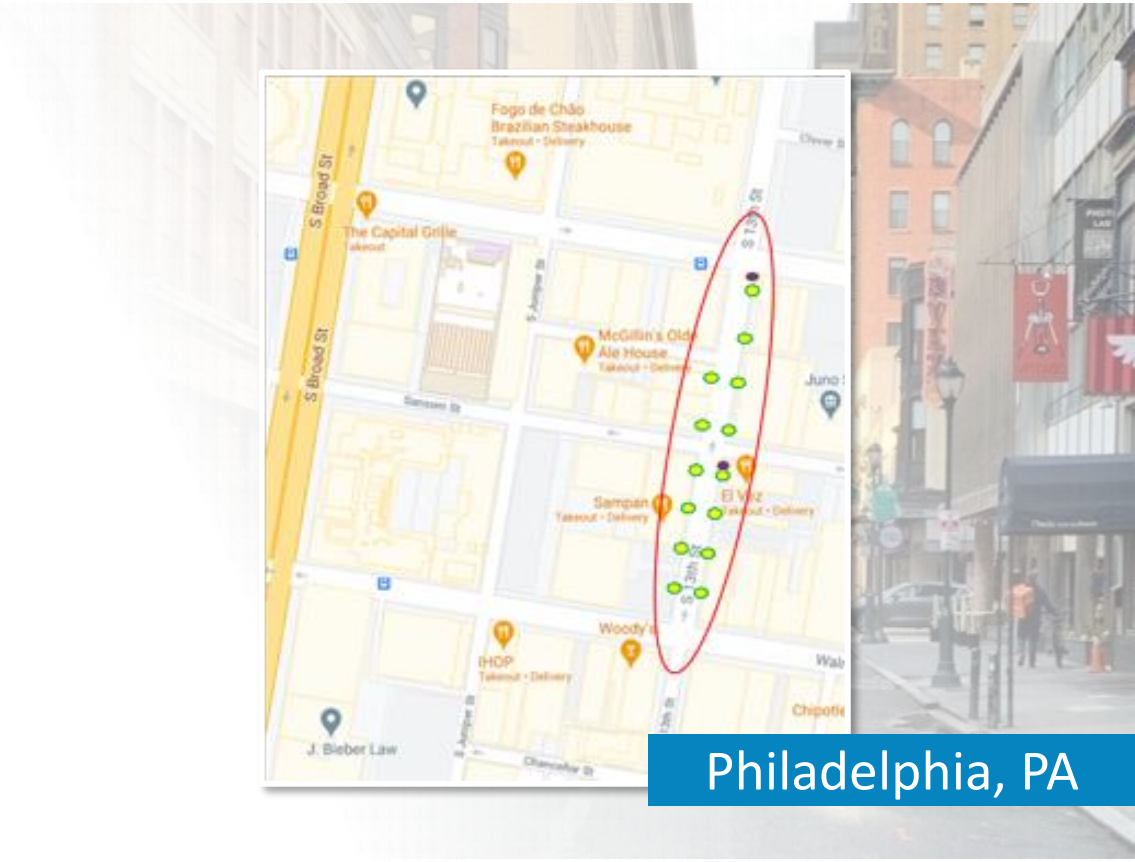
- 14 Smart Streetlights (Colonial Design) with sensors
- City owned and managed solution
- Collects meta-data about traffic, street activity and the environment
- No PPI is collected or stored
- PHL will not use data to enforce laws or issue tickets
- Uses the latest in EDGE processing
- Deliver new insights to Philadelphia, its residents, and
  its business partners

Use cases & Insights:

- Pedestrian occupancy
- Environment health
- Roadway Traffic
- Parking Utilization
- Managed WIFI

Technology:

- Comcast 1Gbps EDI Circuit
- Retrofit streetlights with Partner's smart solution
- Partner's lighting management and Smart City Platform



Utility Lease Model

Colorado Springs Utilities
It's how we're all connected

Utilities of the Future:
- Over 2,000 miles of fiber buildout over the next 6 years
- Demand Side Management
- Distributed generation
- Advanced Metering Infrastructure

Fiber connectivity available to:
- Every address
- Every signalized intersection
- Every street light

Enabling infrastructure:
- High speed
- Low latency
- Highly secure
- Highly reliable

Office of Innovation

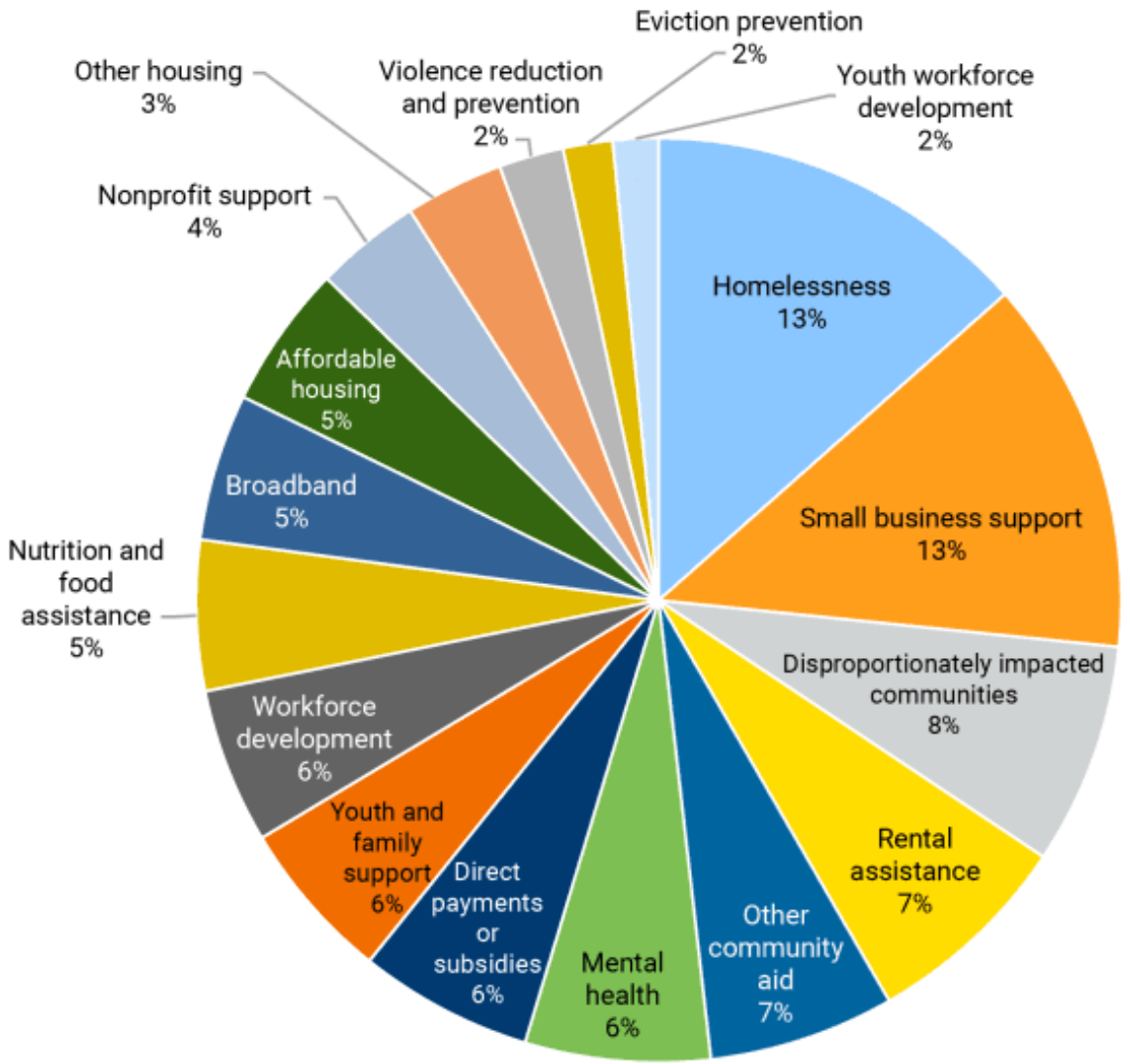
COLORADO SPRINGS
OLYMPIC CITY USA


100
FW C 128
FEDERAL RESERVE NOTE
MF 5703513 1 B
F6
UNITED STATES FEDERAL RESERVE SYSTEM
Secretary of the Treasury.
Treasurer of the United States.
ONE HUNDRED
THIS NOTE IS
FOR ALL DEBTS, P
JULY 4, 1776.

ARPA funds

	Budgeted ($)	Economic disadvantage ($)	Percentage (%)	Total Projects
Madison, Wisc.	22,800,000	21,800,000	95.6	28
Riverside, Calif.	29,242,594	27,090,000	92.6	29
Columbus, Ohio	53,284,081	48,209,406	90.5	8
St. Louis, Mo.	123,195,020	109,650,470	89.0	70
Nassau County, N.Y.	185,350,000	163,750,000	88.3	18
San Jose, Calif.	70,562,771	61,900,771	87.7	25
Clackamas County, Ore.	28,191,637	22,684,455	80.5	11
Washoe County, Nev.	46,312,296	37,192,053	80.3	25
Minneapolis, Minn.	108,527,983	84,885,905	78.2	67
Dane County, Wisc.	94,375,082	71,662,768	75.9	16
San Joaquin County, Calif.	66,011,593	49,932,146	75.6	11
Los Angeles County, Calif.	704,851,000	521,501,000	74.0	61
Prince William County, Va.	31,200,000	22,500,000	72.1	7
Northampton County, Pa.	22,658,617	15,704,262	69.3	6
San Mateo County, Calif.	74,448,909	50,748,909	68.2	19
Nashville-Davidson, Tenn.	78,381,250	51,713,996	66.0	17
Maricopa County, Ariz.	414,987,433	273,141,352	65.8	55
Pierce County, Wash.	175,781,445	115,159,256	65.5	79
Alameda County, Calif.	142,500,000	91,500,000	64.2	15
Phoenix, Ariz.	133,365,662	85,565,662	64.2	36
St Paul, Minn.	33,630,184	21,031,000	62.5	19
Orange County, Fla.	135,830,857	82,362,846	60.6	38
Ingham County, Mich.	29,601,971	17,318,000	58.5	13
York County, Pa.	65,753,816	37,983,311	57.8	105
Mesa. Ariz.	27.800.000	16.000.000	57.6	4

Brookings Metro



Orange County, Florida

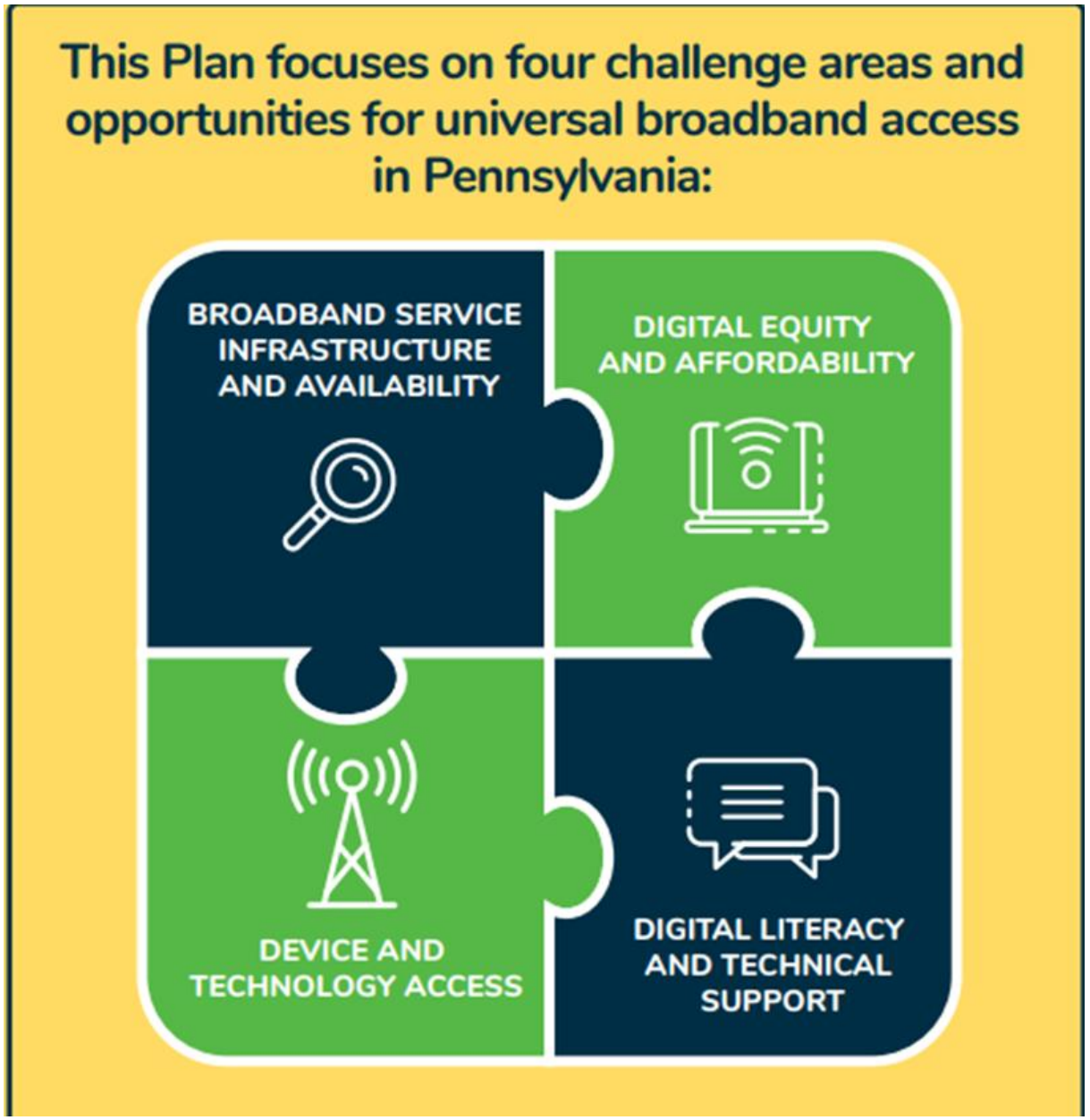
$16.1 Million in ARPA Funds

Broadband Infrastructure and Digital Equity Programs

- Residential Broadband-Eliminated Unserved Homes
  - Availability, Adoption, Affordability, Ability

- **Innovation Lab-Leased Services, Dark Fiber, Wi-Fi, Routers, Telehealth**

- Digital Devices, Connectivity, Helpdesk
  - 3rd Party Non-Profit-New and Repurposed Devices
- Programs-Digital Equity, Telehealth, Workforce Development
  - Digital Literacy Courses
  - Telehealth Station with Orlando Health
  - Workforce Development Program for fiber optic and wireless technicians.
  - STEM Support


This Plan focuses on four challenge areas and opportunities for universal broadband access in Pennsylvania:
BROADBAND SERVICE INFRASTRUCTURE AND AVAILABILITY
DIGITAL EQUITY AND AFFORDABILITY
DEVICE AND TECHNOLOGY ACCESS
DIGITAL LITERACY AND TECHNICAL SUPPORT

Philadelphia

Office of Innovation & Technology

DEVICES	CONNECTIVITY	TRAINING & WORKFORCE	ECOSYSTEM
Philadelphians can access appropriate and affordable technology devices.	Philadelphians can access and afford the internet connectivity they need.	Philadelphians develop the digital skills necessary for work and life.	Philadelphia grows and sustains the capacity and infrastructure required to increase digital equity.

Kim Walker Lagrue

Thomas Tyler

FCC Internet Benchmarks

Qualifies for Federal & State Investment

Date Adopted	Minimum Download	Minimum Upload	FCC Commissioner
2015	**25 Mbps**	**3 Mbps**	Tom Wheeler, D
2010	4 Mbps	1 Mbps	Julius Genachowski, D
1996	200 Kbps	200 Kbps	William Kennard, D

Federal Construction Requirements

Reliable 100/20 Mbps scalable to 100/100 Mbps (symmetric)

The Challenge

33.5% of New Orleans households **DO NOT** have a computer in the home

25% of New Orleans families **DO NOT** have home internet

The Numbers

390,845	Total population of Orleans Parish, as per 2020 U.S. Census
154,826	Households in Orleans Parish, assuming 2.5 individuals per household
33.5%	% of Households without computers at home
51,867	Households without computers at home
129,667	Individuals without computers at home
25%	% of Households without home internet
38,707	Households without home internet
97,711	Individuals without home internet
25%	% of Orleans Parish High Schools teaching foundational computer science

Allocation	Amount	Agency
Federal Broadband Infrastructure Funding	*$65 Billion allocated ($.06 billion for other)*	NTIA
Middle-Mile Broadband Deployment Grant Program	*$1.0B*	NTIA
Digital Equity Competitive Grant Program	*$1.25B*	NTIA
State Digital Equity Capacity Grant Program	*$1.5B*	NTIA
Distance Learning, Telemedicine, and Broadband (DLT) Program & ReConnect Program	*$2.0B*	USDA
Tribal Broadband Connectivity Program	*$2.0B*	NTIA
Affordable Connectivity Program	*$14.2B*	FCC
Broadband Equity, Access, and Deployment Program	*$42.45B*	NTIA

GUMBO Grant Program (CPF)

- $177 million program from Capital Projects Fund
  - 177 applications totaling $711 million in total project costs
  - $440 million in state funding requests
  - 40% average match (25% match required)
  - 56/64 parishes/counties
  - 14 national companies, 8 local companies, 1 cooperative
  - Partnership with Louisiana Community and Technical College System
    - $10 million allocated by the state for broadband workforce develoipment

GUMBO Grant Program (CPF)

- Application Protests – 157 protests targeting 88 applications
  - 31 appealed, all resolved

- Award Announcements – July, August, September 2022
  - 80+ awards across 54 parishes/counties
  - 18 different companies
  - $285m in projects, $164m subsidized
  - 80k locations
  - Average completion within 18 months

- Award Protests:
  - 29 projects, 14 in process

Education

- Digital skills training for:
  - Returning citizens
  - Justice involved youth (JJIC)
  - City employees
- MS Office skills for City employees
- Tech Goes Home for community groups
- Citizen's fiber/broadband academy
- Business classes

Digital Tools

- Office of Youth and Families partnership
- Computer donations to PATHWAYS program (formerly incarcerated)
- Community Device Donation Program – 2022 give aways = 424
  - Sept. '22 Laptop Give Aways - 177
  - Dec '22 Laptop Give Aways - 247

Access

- Infrastructure
  - Expand City Wi-Fi
  - Deploy smart Wi-Fi devices to city poles
  - Carrier Spectrum infrastructure (Verizon and T-Mobile)
- Build middle-mile fiber
  - Planning strategy w/consultant Public/Private Partnerships
  - Partner with other City depts/agencies
- Subsidized internet in the home
- Check out a MiFi from the library
- Subsidized cellular service (TANF)
- Grants (NTIA, DOJ)
- Make connections with telecos/carriers
- AT&T Gumbo grant (NO East)
- STEM NOLA – build relationships with providers
- Higher education partners - research about access in New Orleans?
- Comp-u-Dopt / Wal-Mart partnership
- Partner with Johns Hopkins

How can we address digital enablement?

Availability, Adoption, Affordability and Ability

Broadband and Digital Equity Planning Matrix

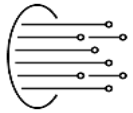
How

Functional Locations	Devices	Networks	Programs	Funding
· Community Centers	· Computers	· Fiber Government	· Literacy	· State-BOP
· Hospitals and Clinics	· Tablets	· Fiber Service Provider	· Individual Devices	· Federal-State-CPF
· Libraries	· Smart Phone	· Cellular	· MDU Infrastructure	· Federal-State-BEAD
· Senior Centers	· Wi Fi	· Wi Fi	Workforce and Skills	· Federal-State-Digital Equity
· Parks	· Telehealth Booth	· Private	· Telehealth	· Federal Digital Equity
· MDU & Group Homes	· Digital Boards	· LAN	· Helpdesk/Navigators	· E-Rate

Digital Infrastructure

Scalable/Interconnected

Fiber	IoT	Cell-Macro, Small & DAS	Wi Fi	Private LTE & 5G	Smart Poles	Devices



NB-IoT

LoRa®

LTE

Lighting +

Cameras

Kiosks

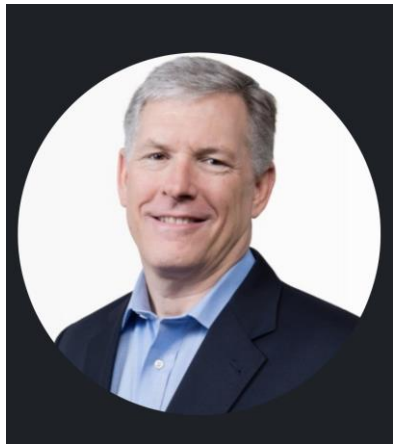
Computers/Tablets

Sensors

Jamaal Smith
Kajeet

Eric Toenjes
Graybar

Oren Binder
OnGo Alliance



Greg Spraetz
Network Connex

Jim Jacobellis
Alef

kajeet AT A GLANCE

- A Leading Public & Private Wireless Managed Service Provider
- Two Decades of Experience
- Leading US provider of off-campus wireless internet for students
- Over 3,000 Customers
- Service 7 Large High Growth Verticals
- 5.5M+ Lines Connected
- Award Winning Software Platforms
- 40 Foundational U.S. Wireless Patents
- 150+ employees
- MSP for Charter & Comcast
- 40+ Private Wireless Deployments

MARKETS SERVED

SELECTED CUSTOMERS

EDUCATION

FIELD SERVICES

HEALTHCARE

TRANSPORTATION

MONITORING

TELCO & CABLE

PARTNERS

Alliance Membership – 165 Strong & Growing

4RF Limited
Accelleran
ADRF Technologies
Agri-Valley Communications, Inc
Airspan Networks
Airtower Networks
Allen Vanguard Wireless, LLC
Alpha Wireless
Amdocs Management Limited
American Tower Corporation
Amit Wireless Inc.
ANS Advanced Network Services, LLC
Anterix
Asiatelco Technologies, Inc
Askey Computer Corp.
Aspire Technology Partners
AT&T
ATDI
Athonet
Baicells Technologies Co., Ltd.
Ballast
Barich, Inc
Bearcom
BEC Technologies, Inc
Betacom
Black Box
Blinq Networks
BlueArcus Technologies
Boingo Wireless, Inc.
BTI Wireless
Cable Television Laboratories Inc
Cambium Networks
Capgemini America, Inc
Casa Systems
CellAntenna Corporation
Celona, Inc
Centerline Communications
Charter Communications
Ciena
Cirrus Core Networks, Inc
Cisco Systems
Codium Networks
Comba Telecom, Inc
Comcast Corporation
Commscope
Communication Technology Services, LLC
COMSovereign Holding Corp
Connected Devices, Inc
Connectivity Wireless Solutions
Contour Networks
Corning Optical Communications
Cox Communications
Cradlepoint
Crown Castle
CTIA
CTL
DEKRA Testing and Certification, S.A.U.
Dell Technologies
Dense Air Limited, LLC
Digi International
Digital Global Systems
Dish Network
Druid Software
EDX Wireless
Element Materials Technology Washington DC LLC
Encore Networks
Ericsson, Inc.
EUCAST Co., Inc
ExteNet Systems, Inc.
Facebook
Federated Wireless
Fibocom Wireless USA, Inc
Fibrolan
FreedomFi, Inc
Frequencz
Frontier Communications
Fujitsu Network Communications
Gadgetspace, LLC
GE MDS
Gemtek Technology Co., Ltd
GenXComm, Inc.
Geoverse
Giesecke+Devrient
Global Technology Associates, LLC (GTA)
Goodman Telecom
Google, LLC
Graybar
HALO DAS, LLC
HCL Technologies
Hewlett Packard Enterprises
Highway9 Networks, Inc
Huber + Suhner
Ibwave
Imagine Wireless
Impact Broadband Corporation
Inseego Corp
Insta Advance Oy
Intel Corporation
IOT4NET, Inc
JACS Solutions
JMA Wireless
JPU
Juniper Networks
Kajeet
Keysight Technologies, Inc
KLA Laboratories, Inc
Kleos UK Ltd
Kore Wireless
LandMark Dividend, LLC
Mavenir Systems, Inc
Midcontinent Communications
Miller Electric Company
Mobilitie, LLC
Monogoto, Ltd
Motorola Solutions
Multi-Tech Systems, Inc
Munisite Networks
Nesten, Inc
NextGen Global Resources, LLC
Nokia
NRTC
Nsight
OneLayer
Palo Alto Networks
Panasonic
Parsec Technologies, Inc
Pavlov Media, Inc
Pierson Wireless
Pyramid Network Services, LLC
QuadGen Wireless
Qualcomm
Quanta Cloud Technology
Quantum Wireless
Qucell
Qulsar
Radio Frequency Systems
Radisys Corporation
Radtonics, Inc
Rakuten USA, Inc
RANlytics
Ranplan Wireless, LLC
Redline Communications
RF Connect
Samsung Electronics America Inc.
SBA Communications
Securus Technologies
Seowonintech Co., Ltd
Sequans Communications
Sercomm USA, Inc
SGS North America, Inc
Shared Access
SNS Telecom & IT
Socionext America, Inc
Solid
Sony Group Corporation
Sporton International, Inc
Star Solutions International, Inc
Sterlite Technologies Limited
Super Micro Computer, Inc
SureSite Consulting Group, LLC
Syniverse Technologies, LLC
Tango Networks
Teal Communications
Tecore Government Services, LLC
Telecommunication Technology Labs, CAICT
Telit
Telka, LLC
Telrad Networks
Telsasoft
Terranet Communications, LLC
Tessco Technologies, Inc
Texas A & M University
The New York Library
The Quilt
T-Mobile USA
Transit Wireless
Trextel, LLC
TruConnect
U.S. Cellular
University of New Mexico
Valid8.com, Inc
Vedanta Telecom, LLC
Vergibility, LLC
Verizon Communications
Vertical Bridge Holdings LLC
View, Inc
VMware Inc
Wesco
Wilson Electronics
Winncom Technologies
Wispa (Wireless Internet Service Providers Association)
XCOM Labs, Inc
ZenFi Networks
Zyxel Communications Corporation

CBRS Momentum - Where Are We Today?

Over 300K

CBSD's
deployed in the US

- Healthcare
- Manufacturing
- WISPs
- Airports
- Oil & Gas
- Warehouses
- Hospitality
- Education
- In-building
- Public Safety
- Agriculture
- Utilities
- Military
- Large Venues
- Rural Access

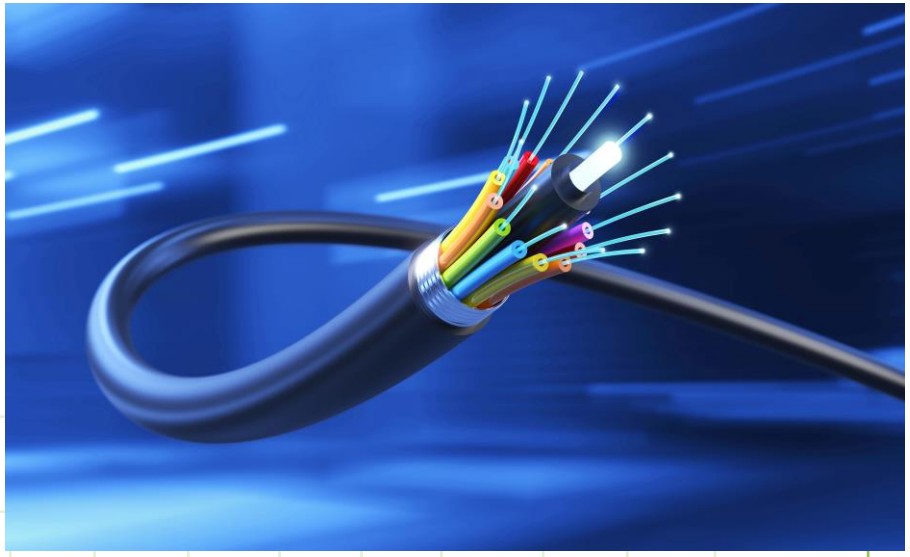
Over 900

Different operators leveraging freely available CBRS spectrum (GAA)

NETWORKCONNEX

Our Services

- Construction Management
- Data Center Infrastructure
- Data Ctr/MSO Headend Installations
- Fiber Placement, Splicing & Testing
- OSP Construction
- OSP/ISP Design & Engineering
- Professional Engineering Services
- Real Estate & Site Acquisition
- Turnkey Solutions
- Wireless Tower Construction



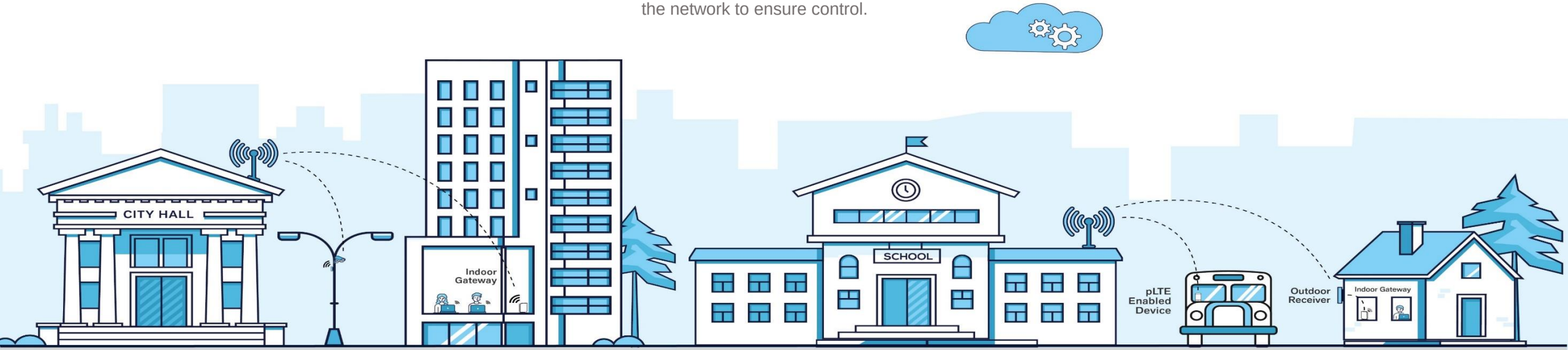
The first Edge API Platform that offers edge as a service to empower cities to create, customize, and control their own private LTE/5G network, inside their firewall using programmable APIs.

ALEF

Bridge the Digital Divide & Extend the Smart City Foundation

Build a private LTE/5G wireless network broadcast from city and school facilities

Secure Network
Monitors the wireless network, all connected gateways and private LTE enabled devices. Data stays local to the network to ensure control.



GraybaR

Fiber, Power & Poles are the Foundation for a Smart City

Broadband Solutions- Whats being deployed now

5G Solution

- Wireless
  - Macro
  - Small Cell (indoor and outdoor)
- Mid-band 5G deployments
  - C-Band
  - 2.5GHz
  - CBRS- private network option
- Fixed Wireless
  - Home
  - Enterprise

Fiber Solution

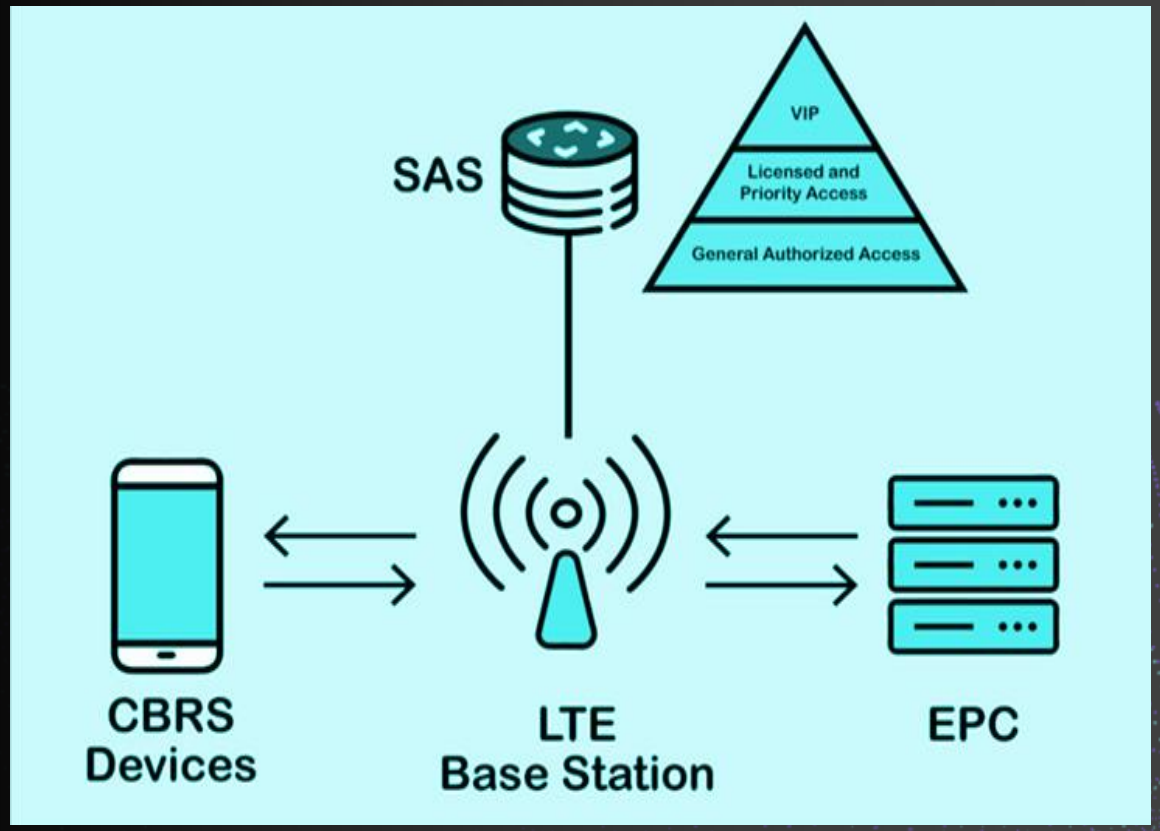
- Wired
  - Middle Mile
  - FTTX
  - Long Haul
  - Datacenters
- FTTX
  - Fiber to the home
  - Fiber to the premise/building
  - Fiber to the Tower/Small Cell

Broadband Solutions- Deployment Challenges

5G Solution + Fiber

- Critical to success
  - Zoning/Permitting
    - High volume of applications
  - Fiber availability
    - Supply chain challenges
    - Timely installation
  - Power availability
    - High volume of applications
    - Timely installations
  - Trained and trusted professional service providers to support
    - Design
    - A&E
    - Site Acquisition
    - Construction

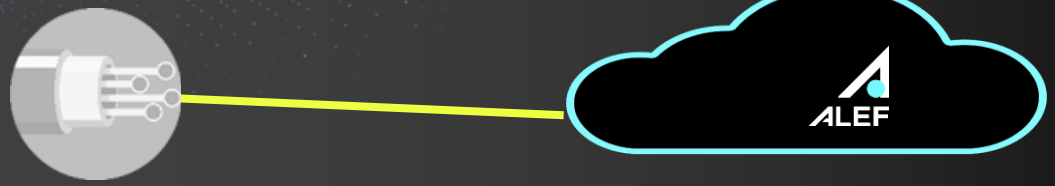
What is CBRS & How to Leverage for a Private Network?



- Allows Enterprise to use cellular technology (LTE or 5G) to enable a private network instead of connecting to AT&T/VZW/TMO
- Provides connectivity for enterprise applications using 150 MHz of spectrum in the 3.5GHz range
- SAS coordinates all frequencies to be used to ensure QOS
- SIM/eSIM at device level required for network access
- EPC can have local break out to LAN and provide devices with private IP addresses

Typical Private Network Topology

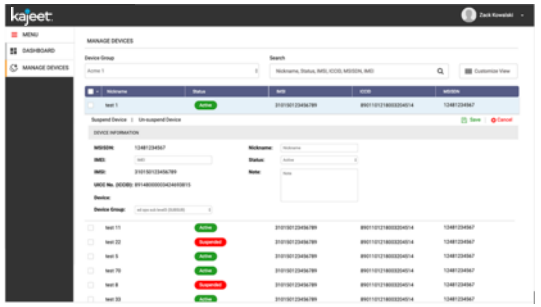
City or School Fiber Network & Service Layer

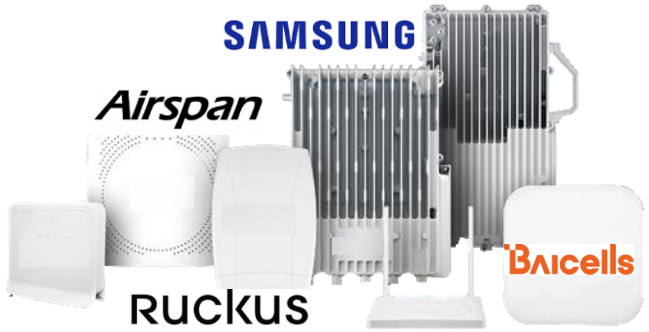


ALEF

Smart Private 5G™ Platform

Smart, Simple & Secure Cloud-Based Platform To Manage Private 5G & LTE Networks





Private 5G **CLOUD**

SIM, Device, Subscriber & Network Management

Private 5G **EDGE-CORE**

5G Cloud Core & Edge Core

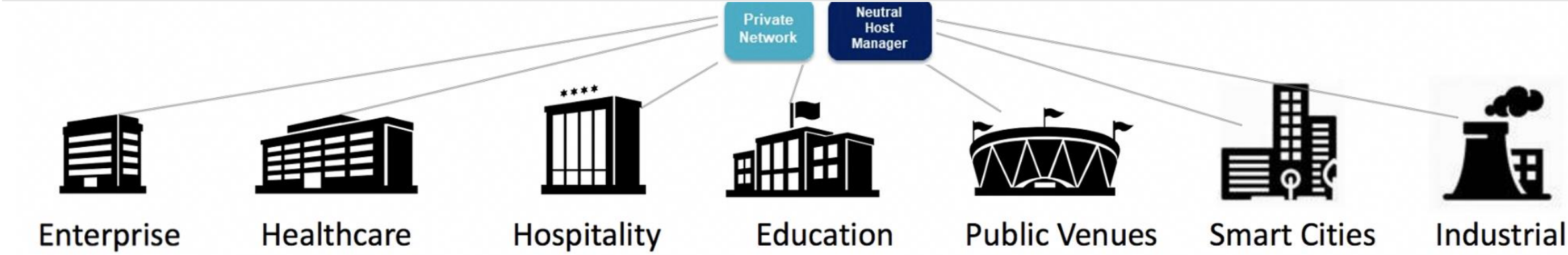
Multivendor **RADIOS**

Private Radio Access Network

Private 5G **SIMs**

Private Wireless SIM & eSIM

- **Network Design & Installation**
- **SIM & Device Management & Logistics**
- **Network Slicing & Management**
- **Open APIs Application & Developer Platform**
- **Neutral Host & Carrier Connectivity**
- **Private 5G/LTE as a Service**

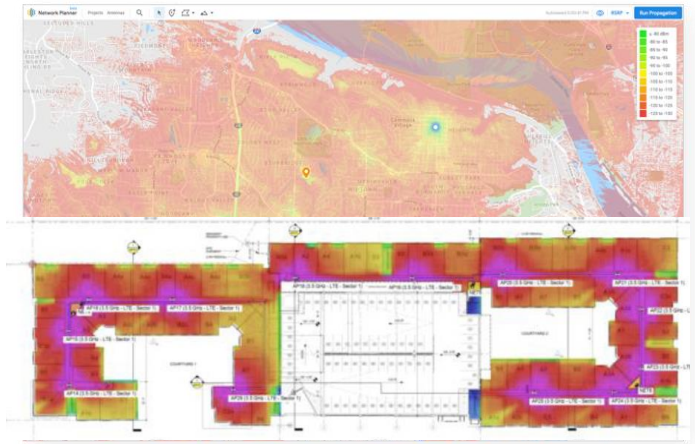


Turnkey Smart Private 5G™ Managed Services

Planning Site Selection Acquisition Deployment Integration Operations Maintenance

Private 5G Design

- Kajeet Private Network Design
- Is the initial step in determining customer requirements.
- Gather customer requirements, number of locations, user devices, coverage and throughput.
- Determine Spectrum requirements, CBRS, PAL or GAA, EBS, or other.
- Create propagation map and review with customer
- Provide Budgetary Pricing for network and firm pricing for Site Survey.



Private 5G Installation

- Kajeet Private Network Implementation
- References the Smart 5G Design to determine the RAN elements required for the Private Network.
- Acquisition of equipment and services
- Core and Site turnup of services
- Integration with Kajeet's network core and Sentinel™ application
- End-2-End network integration
- System/coverage and acceptance testing

Private 5G-as-a-Service

- Kajeet Private 5GaaS is a complete Managed Service for your Private Network Infrastructure and end user equipment.
- 7x24x365 Network Operations Center to monitor all Private Network elements.
- Customer Support Tiers that range from standard business hours to 7x24x365 support for your end users and their devices
- Access to Sentinel™ application for device management and reporting
- On-Site network support Tiers

CBRS versus Wi-Fi

	CBRS	Wi-Fi
Devices	Handles many	System performance unpredictable as devices added
Infererence	Greatly reduces	Prone to interference from signals in most unlicensed bands
Authentication & Encryption	End-to-end SIM based	Requires proprietary / conflicting coordination
Security	Channel monitoring and coordination of spectrum	Poorer security vs LTE/5G
Handover	Controlled between devices managed by standards	Proprietary best effort for roaming
Latency	Consistently Lower	Unpredictable
Radio	Works well in complex environments with many wireless clients/devices	Works well in simple environments with a moderate number of devices

OnGo Awards
April 2023

Award Winners

Excellence in an Enterprise OnGo Private Network Deployment:

- **Baicells Technologies (with Alef Edge, Cellocity, Druid, LittleBird, Winncom)**: Delivering Highly Desirable Tenant Amenities to the MDU Vertical

OnGo in State, Local, and Education (SLED):

- **Federated Wireless (with AWS):** Powering the 5G Innovation Campus of the Future at Cal Poly

Excellence in OnGo Technology Innovation:

- **JMA (with Boingo, Cisco, Dell, DISH, Google, Hughes, Intel):** Flight Line of the Future with OnGo and ORAN at Naval Air Station Whidbey Island

OnGo Neutral Host Architecture/Solution:

- **CTS (with Airspan, Druid):** Neutral Host trial with a leading healthcare provider showcases using OnGo Network to provide cost-effective coverage to the middleprise

Excellence in a WISP OnGo Deployment:

- **Ericsson (with Ohio TT, Winncom)**: Ohio TT Expanding Broadband to Rural Communities

Judges' Choice Award:

- **BearCom (with Airspan, Athonet, & BEC):** PLTE for Rent to Musical Festivals

Longmont, CO, USA

City of Longmont, Colorado

- Longmont is a growing community of 100K people ~ 10 miles Northeast of Boulder
- Began as a student broadband project to provide connectivity to 4,000 low-income student locations.
- The City of Longmont and their ISP (Nextlight) saw the possibilities of Private LTE and leveraging it for public security cameras.
- Network is currently at 37 base stations and will continue to expand.
- City planning to extend CBRS coverage across entire city in 2023

Closing the Digital Divide in Shreveport, LA with CBRS

Problem

- 40% of City residents lacked access to Wi-Fi at home
- Limited budget (American Rescue Funds)
- Tight timeline for deployment

Solution

- City contracted Spread Networks, who selected Pollen
- Pollen designed a RAN using CBRS radios on city buildings
- Spread Networks deployed the radios with Pollen support

Universal Digital Access

- Residents check out a CPE (Wi-Fi Hotspot) from the library
- City provides internet backhaul using existing network
- Pollen monitors and operates the Cellular network
- Spread Networks is working with city officials to expand into other underserved areas and improve coverage

Available from Graybar via Omnia Contract
Private Cellular Network Connectivity

Rapid Deployment, Single Site & Concept Testing Scenarios

- Large pelican case
  - Cellular Base Station with Antenna (CBRS/EBS)
  - SAS & Radio Cloud control
  - Switching and Routing Hardware
  - Cellular, Satellite or Wired backhaul to Alef core

- Kitted pre-provisioned with the following and Alef (e)SIMs.:
  - CBRS Mobile Point of Sale Devices
  - CBRS Tablet
  - CBRS Router for creating Wi-Fi Hotspot's
  - Up to 25 SIMS/ESIMs
  - Additional Devices Ala Carte including outdoor CBRS Camera with A.I. Functionality

ALEF

OMNIA PARTNERS | Public Sector

GraybaR

OMNIA PARTNERS

POWER. ACCESS. TRUST.

OMNIA PARTNERS PUBLIC SECTOR COOPERATIVE PROGRAM

GraybaR

OMNIA PARTNERS | Public Sector

- Competed Contract satisfies Public Solicitation Process
- 23 years and 20,000 cities / agencies
- Kansas City – Lead public agency
- No Cost / Non-Binding
- Products & Services eligible
- Best in Class Vendors
- National Volume
- Best Overall Value

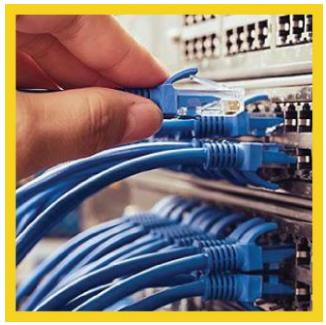
Key Benefits:

- **No RFP or Solicitation required**
- **Flexibility to choose suppliers and installation partners**
- **Shorten timeframes from concept to completion**
- **Great pricing resulting from competed contract**

GraybaR

TYPES OF PRODUCTS

Electrical



DataComm

Lighting & Controls

Power Distribution

Industrial Control & Automation

Conduit, Raceway & Cable Support

Wire, Cable & Wiring Devices

Power Protection & Maintenance Supply

GraybaR