

CALSLA Presentation

Telensa

# CONNECTED STREET LIGHTING WIRELESS SMART CITY APPLICATIONS

Mark Witt Regional Sales Manager

# TELENSA AT A GLANCE

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# #1

World leader  
in connected  
street lighting



> 1.5 MILLION streetlights connected by us

> 80 networks built by us

10 YEARS of deployment experience

UNB the most scalable and cost-effective wide-area connectivity for things

ROI solution pays for itself with a proven business case

IoT simple platform to add smart city sense and control apps

# CUSTOMER TRUST HAS MADE US #1

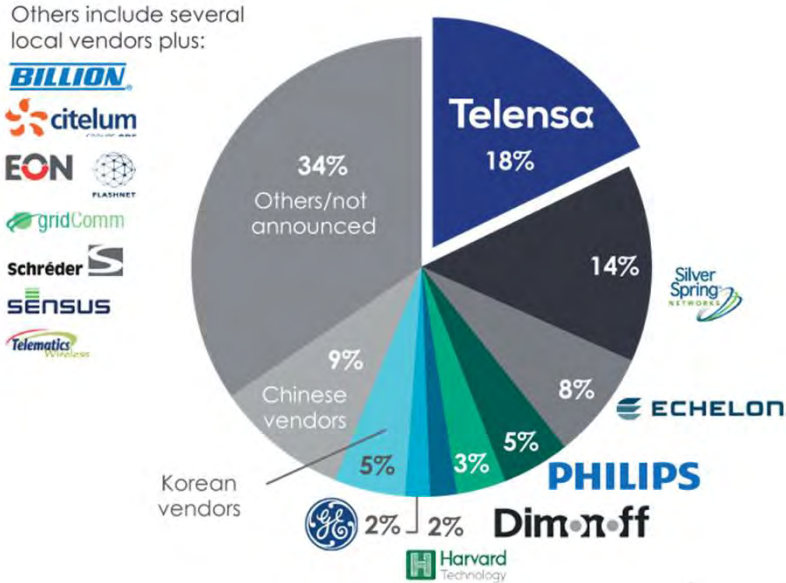


- > Our networks have run at scale trouble free for 7+ years
- > We sell a business case not technology
- > We are the only vendor with multiple large-scale deployments over 100,000 lights

*"We are delighted to work with Telensa to deliver a state-of-the-art control and monitoring system which is best in class and best in the world. Telensa's system has fully met our expectations and has been deployed across the county's 12 districts in two years and within budget. The new system will ensure that we manage the 125,000 street lights more efficiently and effectively to improve service levels while reducing energy costs and helping meet our carbon reduction targets."*

Essex County Councillor **Rodney L Bass**,  
Cabinet Member for Highways & Transportation

**Global streetlight networking market share (deployed and announced) 8,004,650 units**

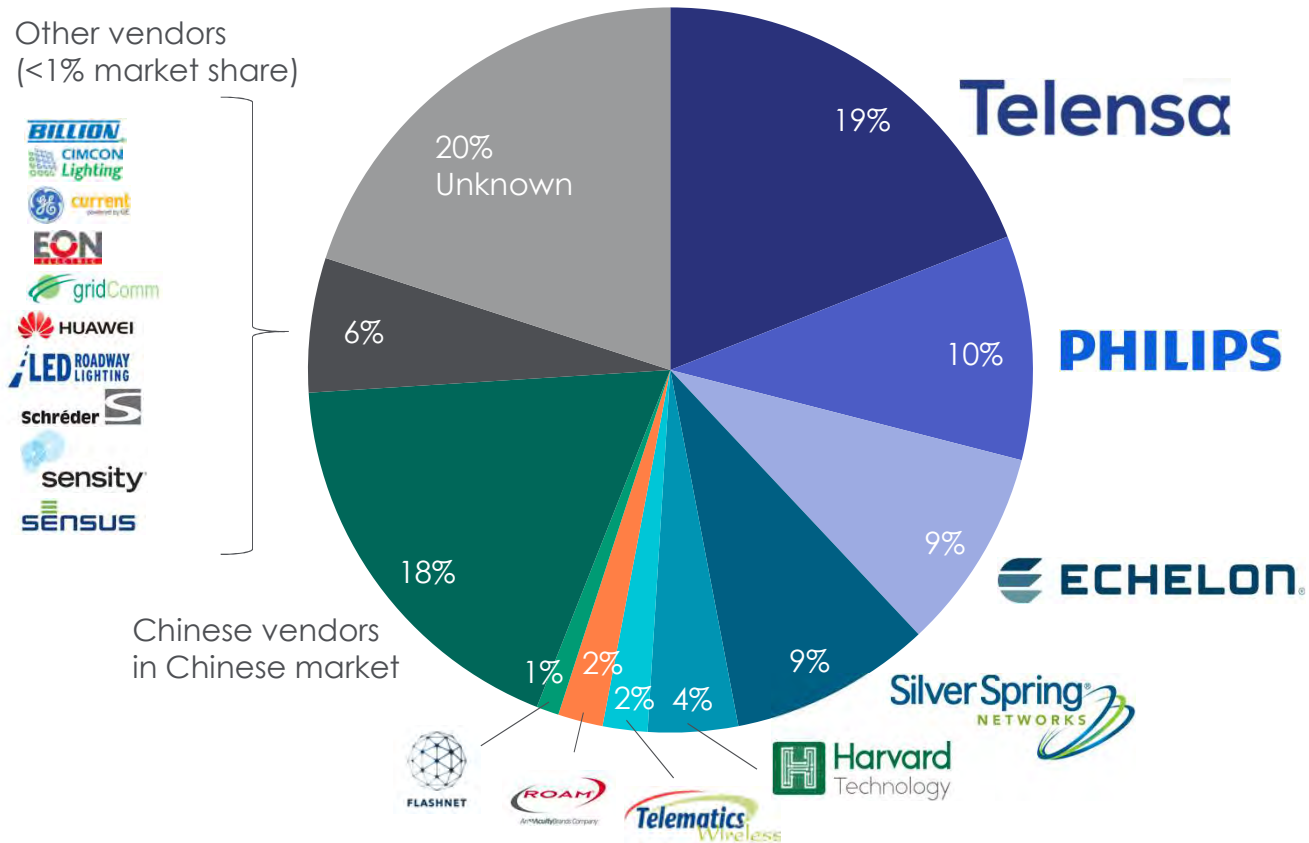


Source: Northeast Group

# Global streetlight networking market share (deployed by end of 2017)

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9,476,812 units



## Telensa Projects > 10,000 units

• Georgia Power, GA – US	250,000+
• Essex – UK	140,000
• Birmingham – UK	130,000
• Suffolk – UK	70,000
• Cambridgeshire – UK	43,000
• Sheffield – UK	58,000
• Coventry – UK	37,000
• Doncaster – UK	33,000
• Northampton – UK	20,000
• Peterborough - UK	24,000
• Warwickshire – UK	49,000
• Gloucestershire – UK	59,000
• Leicestershire – UK	67,000
• Hertfordshire – UK	40,000
• Leicester – UK	34,000
• Wiltshire – UK	33,000
• Dudley – UK	33,000
• Poole – UK	18,000
• Neath – UK	18,000
• Hackney – UK	16,000
• West Berkshire – UK	13,000



## Telensa Projects < 10,000 units

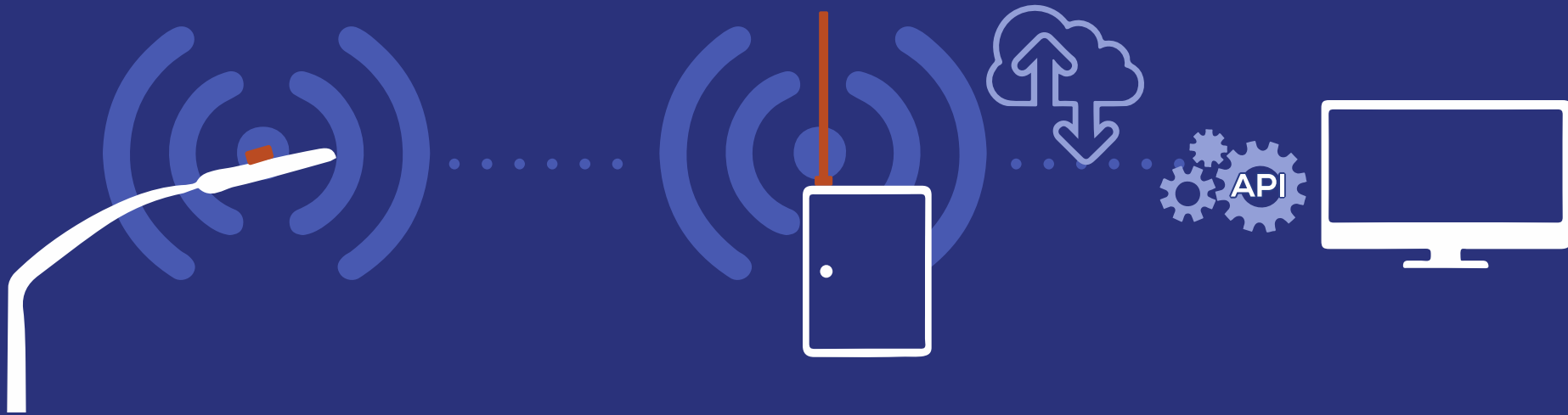
- Gulf Power, MS - US
- Philadelphia, PA – US
- Allentown, PA – US
- Harrisburg, PA – US
- Bellevue, WA - US
- Bremerton, WA – US
- Westminster, CO – US
- Bensalem, PA - US
- San Francisco, CA – US
- Gatwick Airport – UK
- Transport for London - UK
- Bournemouth - UK
- Bedford – UK
- Caerphilly, Wales - UK
- Cardiff, Wales - UK
- Chorzow – Poland
- Dabrowa – Poland
- South Australia DPTI – Australia
- Bulli Tops NSA – Australia
- Dubai RTA – Dubai
- Vector – New Zealand

Numerous other projects



# WE DESIGN THE COMPLETE SYSTEM

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## Telecell

- > 5,000 per base station
- > Very low power (0.8W)
- > Works without network
- > Fixture independent
- > Metering and GPS

## UNB base station

- > Range 6-20 miles
- > Minimal data costs
- > ETSI standards path
- > Simple light pole install

## Central System

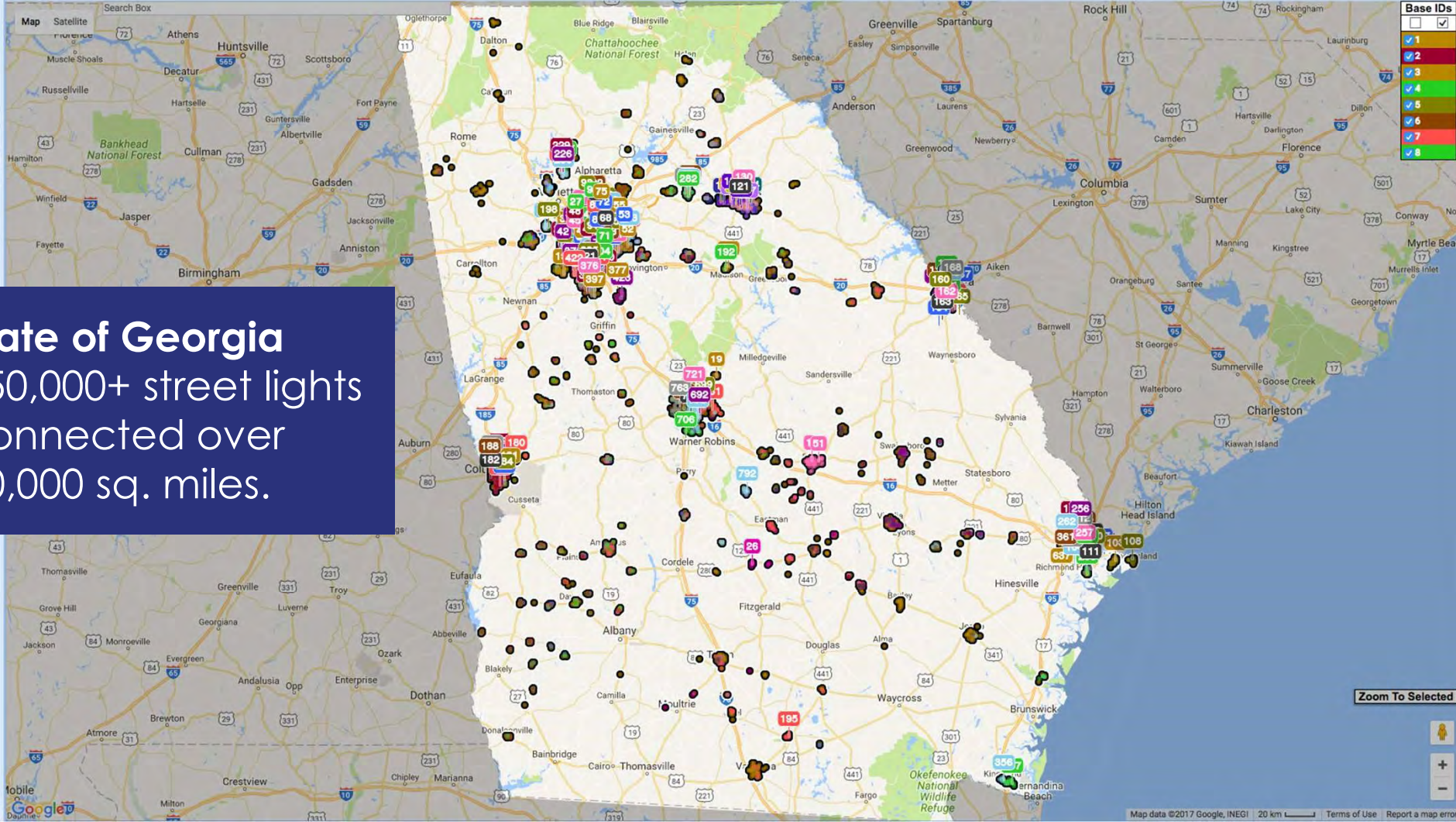
- > Map-based control programs
- > Scales to millions of lights
- > Integration options for asset management, metering and billing systems

- Home
- Log out
- Spool user
- Status
- Tasks
- Lightmeters
- Readings
- Assets Configuration
- Edit Assets Configuration
- Polling
- Override Switching
- Basestations
- Telecells
  - Telecells
  - Connection history
- System Management
- Telensa

# PROVEN AT LARGE SCALE OVER WIDE AREAS

Currently viewing: live data  View Archive  Export

State of Georgia  
250,000+ street lights  
connected over  
50,000 sq. miles.

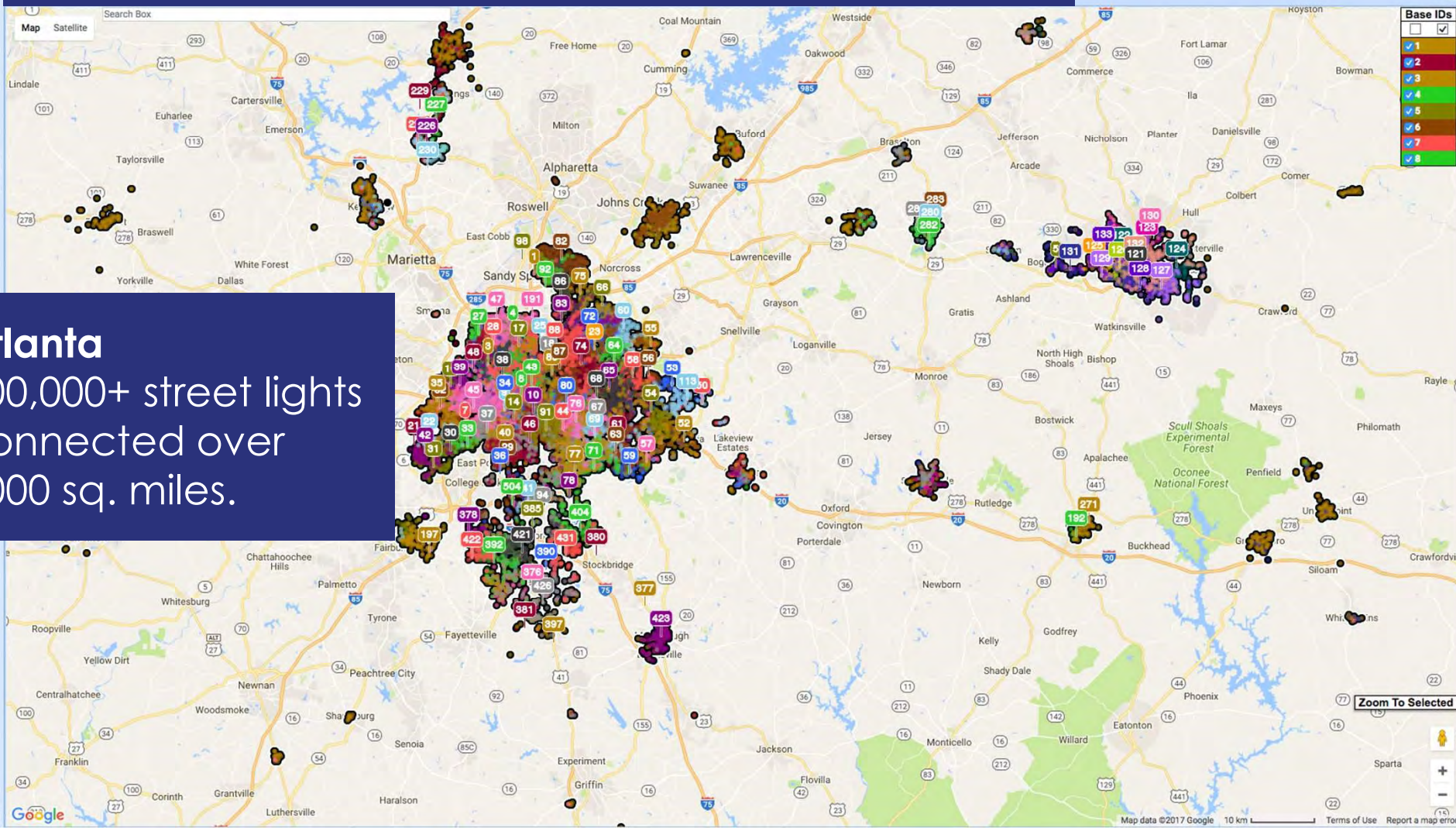




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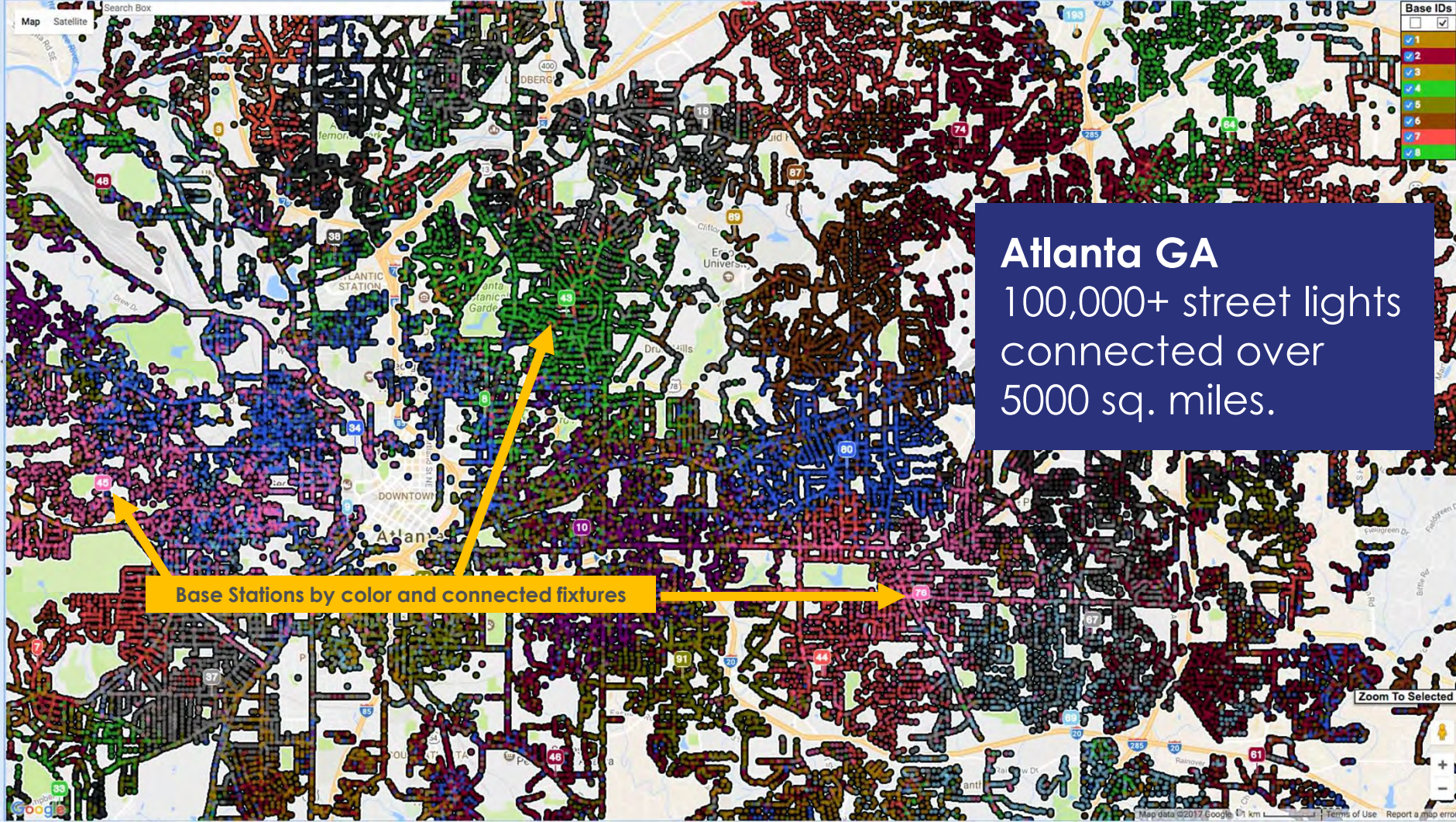
Currently viewing: live data View Archive Export



**Atlanta**  
100,000+ street lights  
connected over  
5000 sq. miles.

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# PROVEN AT LARGE SCALE OVER WIDE AREAS



# ENERGY METERING AND REPORTING

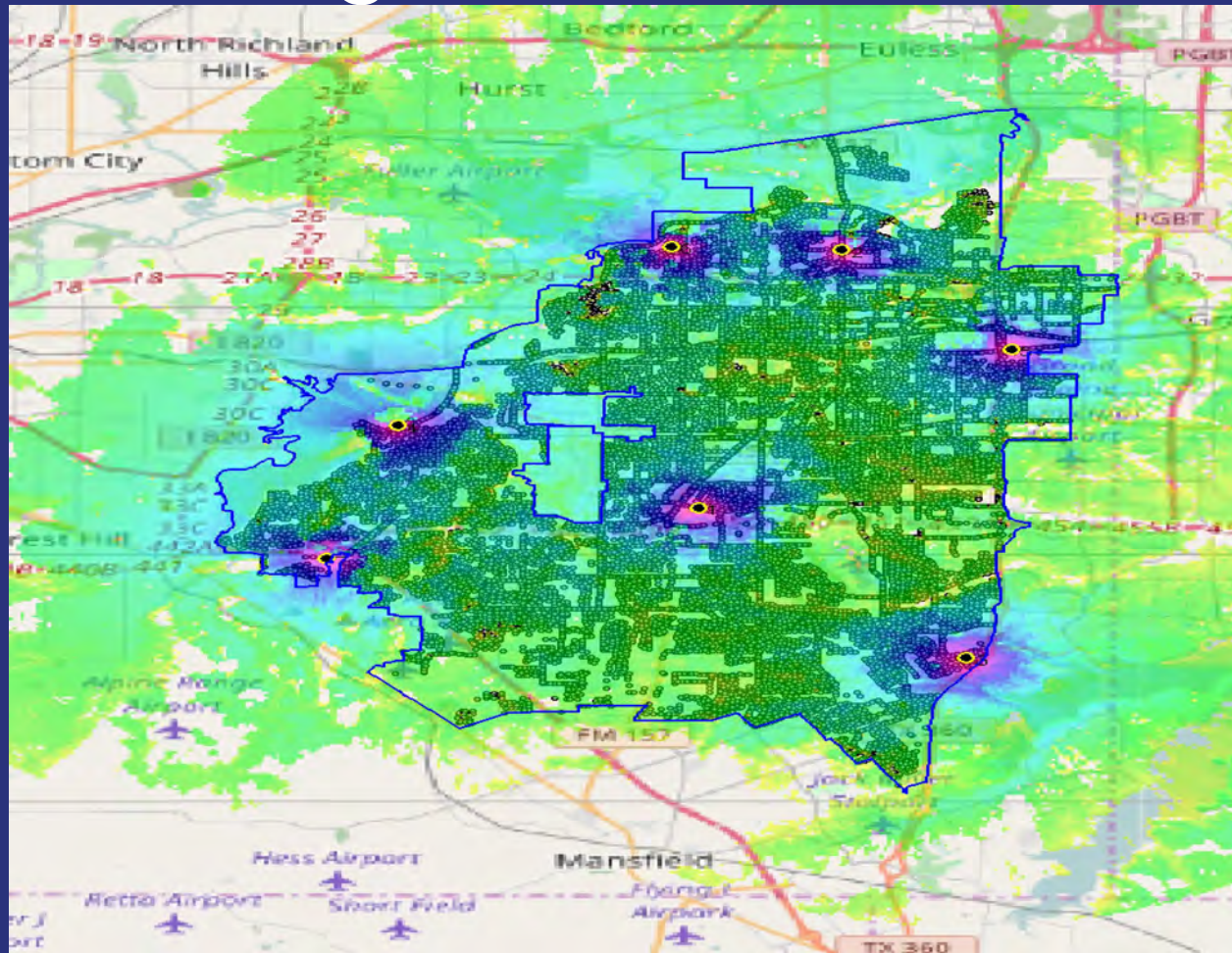
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- > Every Telecell contains **an accurate metering chip**
- > **Precise energy consumption** is measured and cumulative energy use is stored
- > **PLANet** can display **true energy consumption** for any light or set of lights over any period.
- > In the UK, PLANet provides **event logs** for the Government's Elexon energy settlement system to administer flat rate energy charging
- > In the US PLANet reports energy usage and **integrates directly** with Georgia Power's customer billing system



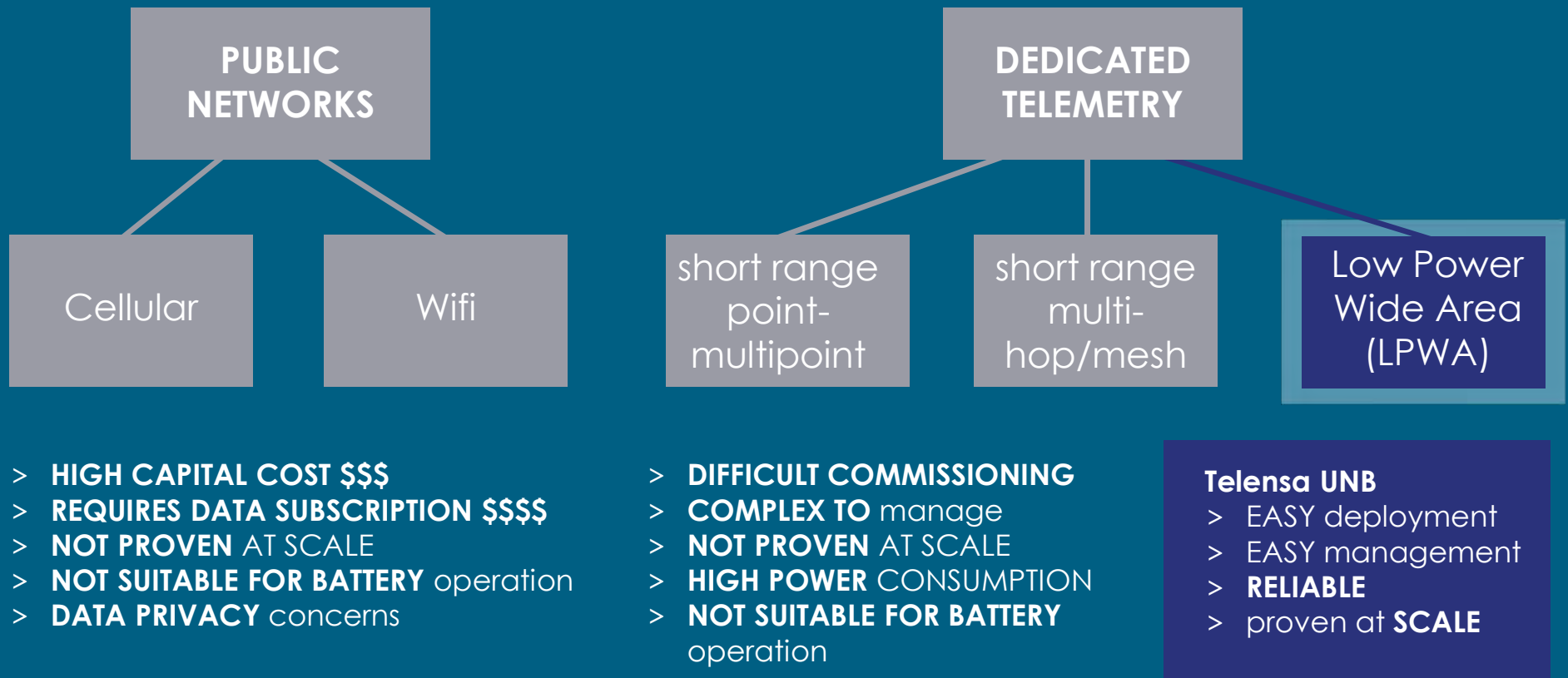
# Network Planning

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# SMART LIGHTING NETWORK OPTIONS

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# TELENSA'S MAJOR ADVANTAGE

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## Telensa UNB

- > 10 mile radius
- > Coverages overlaps for resilience



range 6 – 20 miles

## Mesh systems

- > Expect to deploy at least 20x more gateways/ base stations



1 mile

# BASE STATION



Antenna

Light sensor

Mounting bracket

Power supply

**Base Stations Manufactured @ Cambridge HQ**

# TELECELL

Telensa

IP66 rating

Integral NFC

On-board  
dimming  
(1-10v or DALI)



Integral  
UNB antenna

Integral GPS

5 or 7 Pin  
NEMA connector  
(ANSI c136.41)



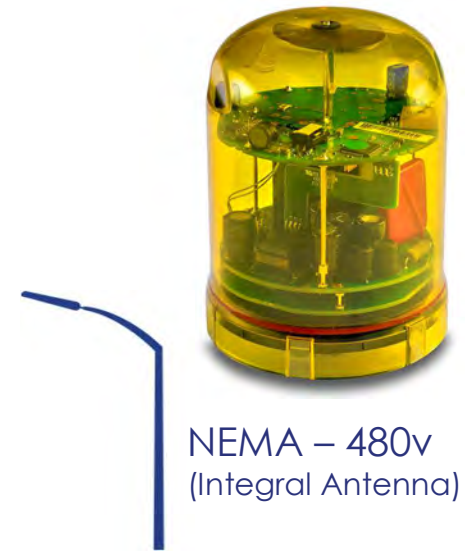
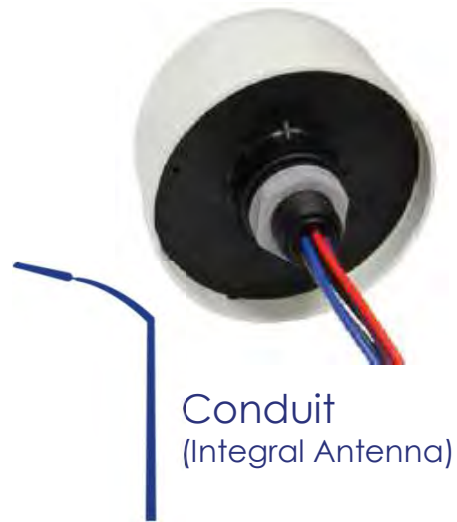
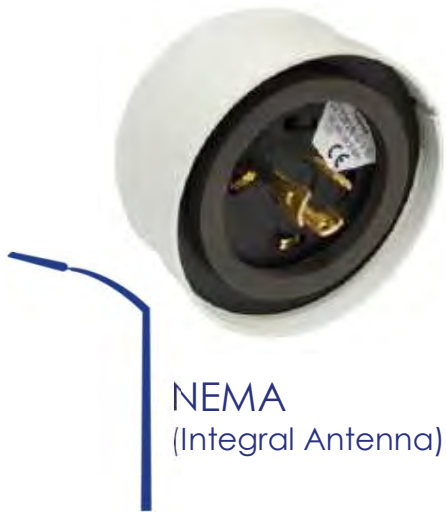
# TELECELL - VARIANTS

Telensa



# TELECELL - VARIANTS

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# COMPATIBILITY

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Our control is compatible with a wide range of manufacturers of luminaires and drivers (any 0-10v or DALI).



# FAST, EASY DEPLOYMENT OVER WIDE AREAS

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## Wide coverage

one Base Station  
gives radio  
coverage over  
several miles

## Easy to build

avoid  
complexities of  
mesh (sequenced  
deployment)

## Simple to scale

thousands of  
Telecells per base  
station can connect  
automatically

## Fast to deploy

Achieve  
complete area  
coverage in  
a few days

# ECONOMICS: MAINTENANCE SAVINGS **Telensa**

- > **REPLACES** night patrols with instant fault reporting
- > **PROVIDES** sophisticated fault diagnosis
- > **REDUCES** repair times
- > **IMPROVES** accuracy of inventory
- > **EXTENDS** information available



# SUMMARY

Telensa

- World leader in connected street lighting – **>1.5 MILLION LIGHTS**
- **COMPLETE CONTROL** solution with dedicated wireless network
- **WORKS WITH ALL** leading fixture manufacturers
- **PAYS FOR ITSELF** with energy savings, billing transparency and streamlined maintenance operations
- **PLATFORM FOR SMART CITY** projects
- **ADD** sensors – **ADD** applications – **CONNECT** to smart city systems