CONNECTED STREET LIGHTING
WIRELESS SMART CITY APPLICATIONS

Mark Witt  Regional Sales Manager
TELENSA AT A GLANCE

#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

Headquarters
Cambridge, UK

Atlanta, US

Singapore

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

9,476,812 units

- **Telensa**: 19%
- **Philips**: 10%
- **Silver Spring Networks**: 9%
- **Echelon**: 9%
- **Sensus**: 6%
- **Chinese vendors in Chinese market**: 18%
- **Unknown**: 21%
- **Other vendors (<1% market share)**: 6%

©: Northeast Group 2017
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
- Northhampton – 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

**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

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State of Georgia
250,000+ street lights connected over 50,000 sq. miles.
Atlanta
100,000+ street lights connected over 5000 sq. miles.
Atlanta GA
100,000+ street lights connected over 5000 sq. miles.
ENERGY METERING AND REPORTING

> 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

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SMART LIGHTING NETWORK OPTIONS

PUBLIC NETWORKS

- Cellular
  - HIGH CAPITAL COST $$$
  - REQUIRES DATA SUBSCRIPTION $$$$
  - NOT PROVEN AT SCALE
  - NOT SUITABLE FOR BATTERY operation
  - DATA PRIVACY concerns

- Wifi

DEDICATED TELEMETRY

- short range point-multipoint
  - DIFFICULT COMMISSIONING
  - COMPLEX TO manage
  - NOT PROVEN AT SCALE
  - HIGH POWER CONSUMPTION
  - NOT SUITABLE FOR BATTERY operation

- short range multi-hop/mesh

- Low Power Wide Area (LPWA)
  - Telensa UNB
    - EASY deployment
    - EASY management
    - RELIABLE
    - proven at SCALE
TELENZA’S MAJOR ADVANTAGE

**Telensa UNB**
- 10 mile radius
- Coverages overlaps for resilience

**Mesh systems**
- Expect to deploy at least 20x more gateways/base stations

- Range 6–20 miles
- 1 mile
BASE STATION

Antenna

Light sensor

Mounting bracket

Power supply

Base Stations Manufactured @ Cambridge HQ

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TELECELL

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)

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TELECELL - VARIANTS

2 Part
(Separate Antenna)

Post Top
(Separate Antenna)
TELECELL - VARIANTS

NEMA
(Integral Antenna)

Conduit
(Integral Antenna)

NEMA – 480v
(Integral Antenna)
COMPATIBILITY

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

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FAST, EASY DEPLOYMENT OVER WIDE AREAS

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

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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

- 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

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