Telensa

Introduction to Telensa

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Telensa at a glance

Telensa

#1 in connected street lighting

1.8 million streetlights connected

90+ networks built

400 cities

10 years deployment experience

Headquarters
Cambridge, UK

Atlanta, US

Melbourne

Strategic partners

Microsoft   SAMSUNG   SAMSUNG SDS   Qualcomm   SONY   EATON

Smart Lighting - The basics
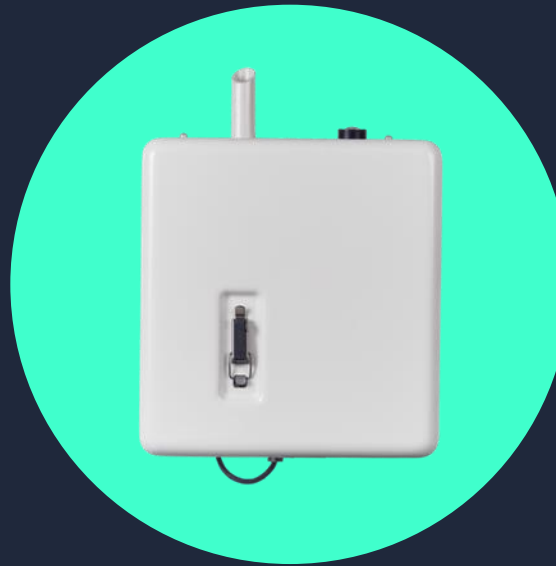
How does smart lighting work, and what are the benefits?

We design and manufacture the complete system

Sensor/control devices

Wide area network

Management application

Telensa telecell ®

world's most deployed wireless streetlight controller

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Complete control portfolio

NEMA   Conduit   2-part   Post top

Data sheet: telecell

Download

Integrated control node and connectivity

0.7W power consumption

Revenue grade metering

Works as normal without network

Self-commissioning automatically connects to the best available base station

Resilient – self heals by reconnecting to alternative base station if required

Discreet – Size of a regular photocell

GPS – Plots lights in CMS

NFC – Chip and smart device app for no-touch provisioning

Relay function extends network to difficult to reach, street-level assets like signs and bollards

# Dedicated lighting network with Telensa Ultra Narrow Band (UNB)

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Base station

- Dual SIM capability for resilient, cellular backhaul
- Supports encrypted data transfer
- Over the air updates

Long range	10-15 km
High device capacity	each base station can connect up to 5,000 lights
Simple deployment	fewer base stations, attached to light poles
Dedicated network	owned by the streetlight operator
ETSI/FCC approved	Compliant with ETSI and FCC standards paths
Connect other sensors	such as: traffic, air quality
Unlicensed, regulated, ISM band operation	ETSI, FCC and national variants

Ultra Narrow Band (UNB) Smart City Network

Data sheet: UNB smart city network

Download
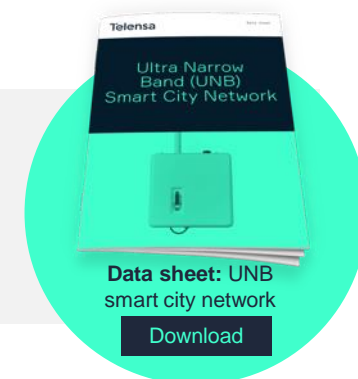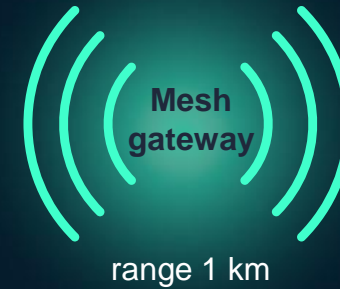
UNB network

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range 15 km

range 1 km

Mesh
gateway

Telensa UNB
- 15 km range
- Coverage planned for resilience

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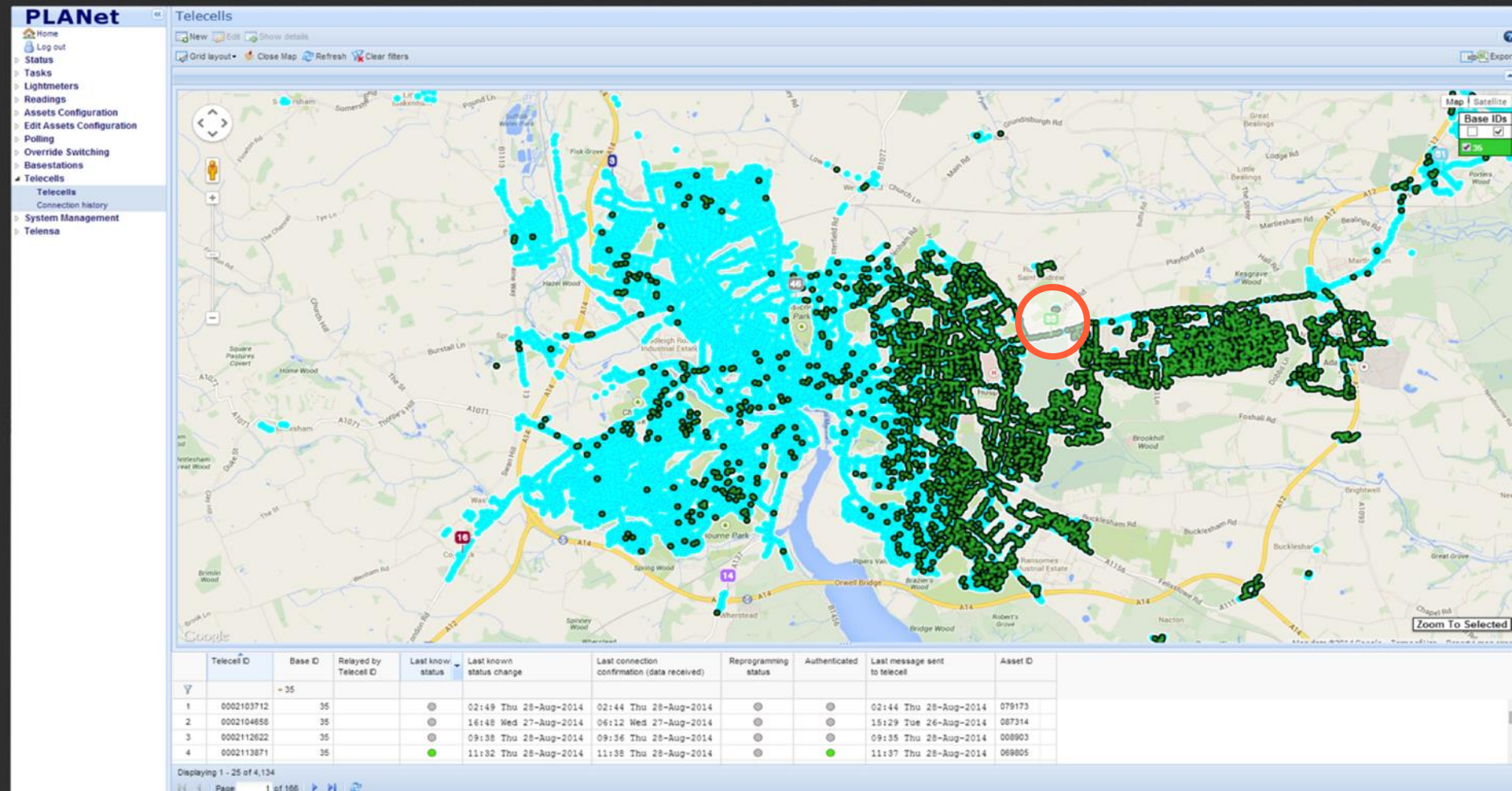- Expect to deploy at least 20x more gateways/ base stations

Wide area – high capacity

Case study:
18,400 streetlights
6 base stations

This picture shows
one base station
connecting 4,100
units (green dots)
range 6.4km

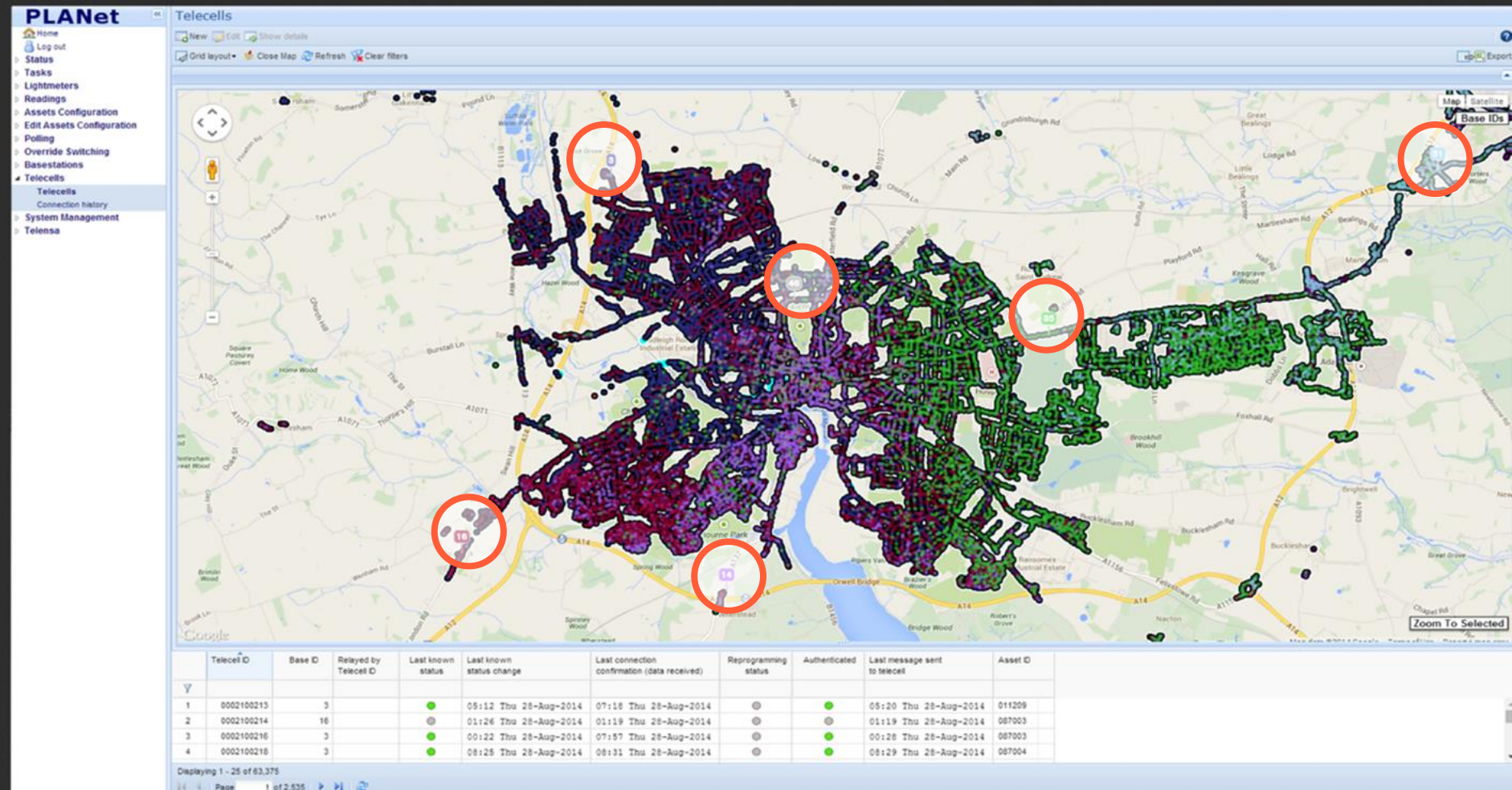# Wide area – high capacity


Case study:
18,400 streetlights
6 base stations

Base stations
combined,
connecting all
18,400 units

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PLANet Central Management System (CMS)

- **Sophisticated, adaptable programming** – allows alteration of lights based on time, special events, emergencies, other sensors, etc.

- **Scalable** – see 100 or 100,000 streetlights in a simple map-based or grid operation (large scale)

- **Integrates to other systems** – third party asset management, metering and billing systems

- **Detailed operational intelligence** – 24/7 fault reporting can reduce night patrols and provide fault diagnosis to improve first-time fix and better resource planning

- **APIs** – easy integrations with asset and fault management systems

- **Flexible hosting options**

PLANet® CMS application for smart street lighting

Data sheet: PLANet CMS

Download
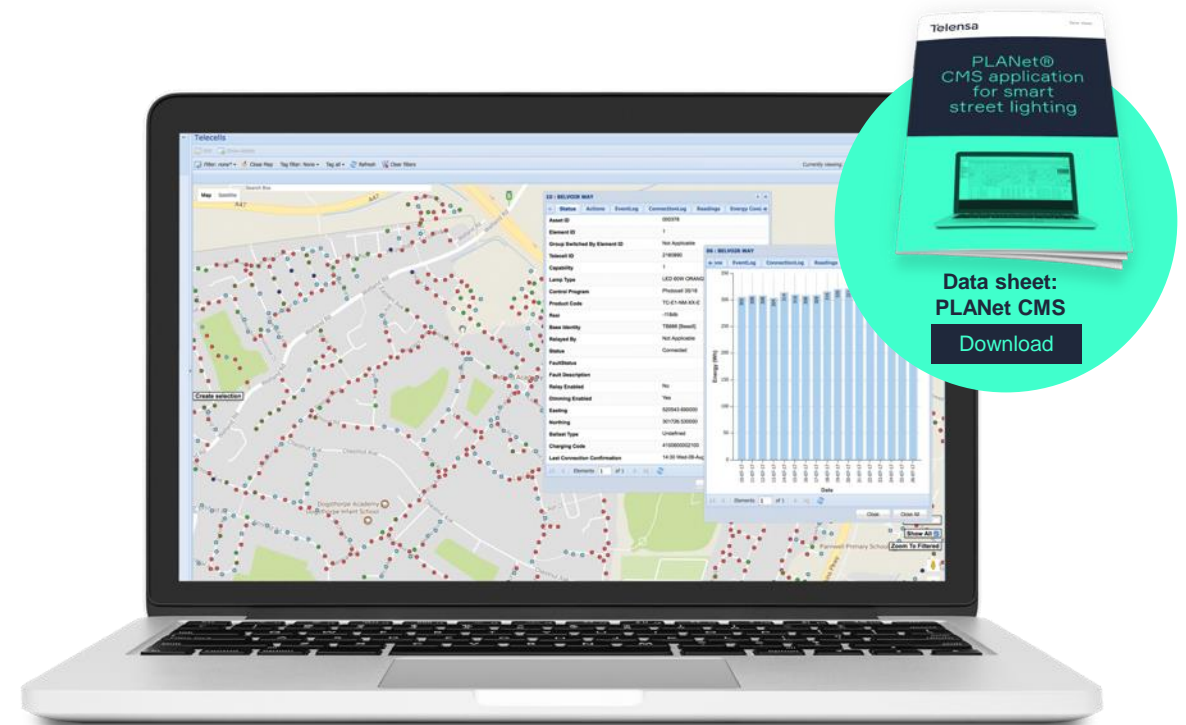
RAMM.
excellence in asset management

pitney bowes

Symology

YOTTA
FROM DATA TO DECISIONS

Proven business case

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Save energy

Dimming programs
- Time, sensor and event based

Trimming
- Precise switching times based on ambient light levels

Constant light output
- Compensate for lumen depreciation and maintenance factor
- Insights to optimize maintenance operation

Save maintenance costs
- Significantly reduce night inspections
- Improve first-time-fix rate
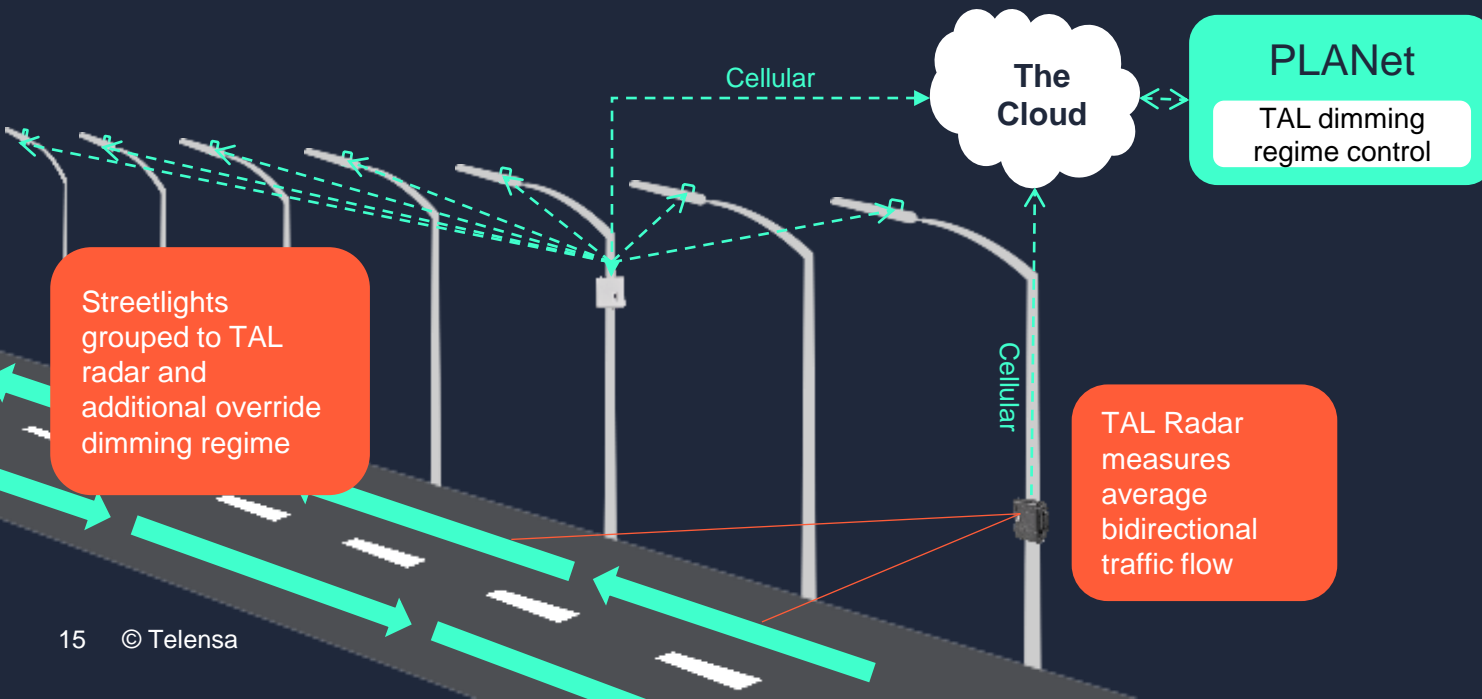- Use detailed insights to optimize maintenance operation

Savings calculator

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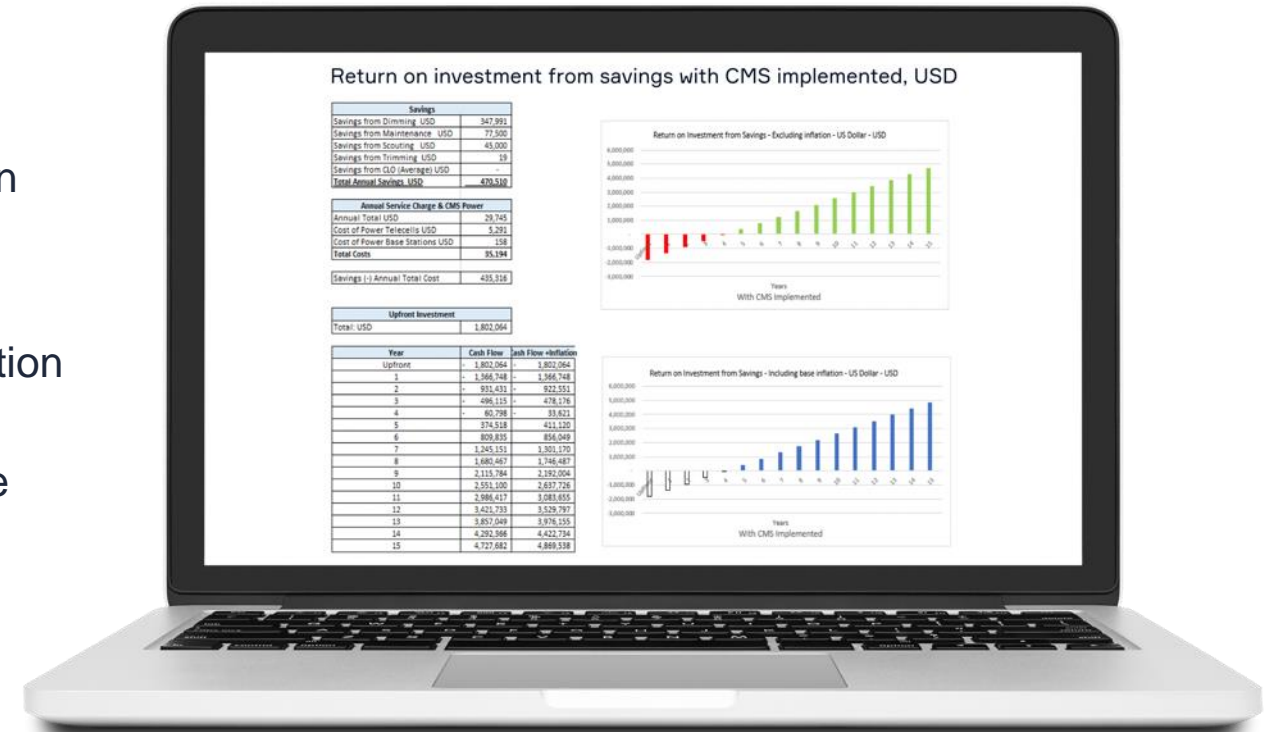
Beyond Smart Lighting

Connecting applications to bring more benefits to cities

Traffic Adaptive Lighting (TAL)

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Groups of lights are dynamically adjusted by the CMS based on real-time raw traffic data received from a radar-based sensor

Lighting empty highways is wasteful

Dimming to deeper levels at low traffic counts creates greater energy savings.

Maintains safety and adheres to country standards

When the traffic count increases above your set threshold the appropriate lighting level will resume to adequately light a busy highway.

Cellular

The Cloud

PLANet

TAL dimming regime control

Cellular

Streetlights grouped to TAL radar and additional override dimming regime

TAL Radar measures average bidirectional traffic flow

Case study: Doncaster

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Groups of lights are dynamically adjusted by the CMS based on real-time raw traffic data received from a radar-based sensor

Doncaster started by controlling a group of 178 lights from Junction 3 of the M18 into Doncaster.

> The data showed peak volumes of 29,000 movements per day and highlighted a 'black period' after 8pm equivalent to only 7,000 vehicle movements per day.
> This analysis justified the move from Class M4 lighting to Class M5 from 8pm-7am when it was previously 10pm-7am.
> The energy consumption reduced from **67,087kWh** to **51,474kWh.**

Daily traffic flows
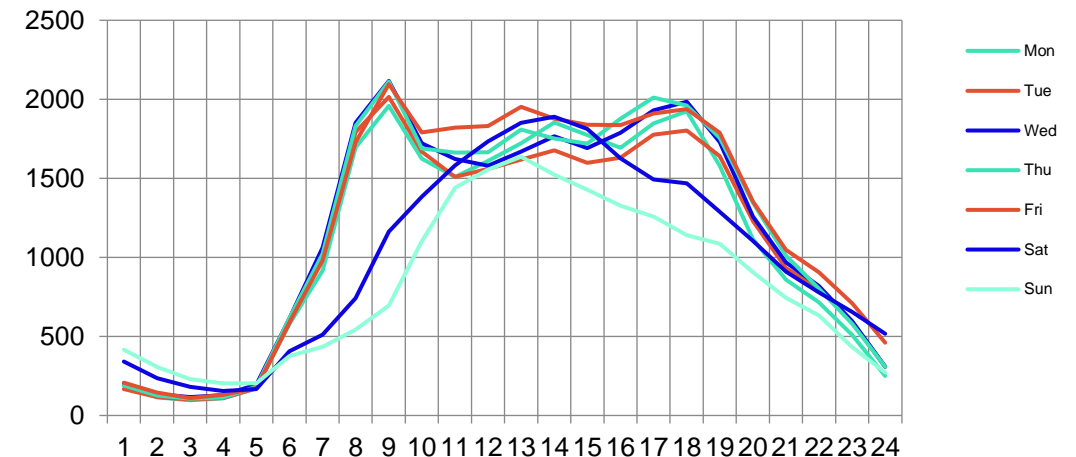
- **23% additional saving in kWh**
- **19% saving on energy spend**

Scaling up

Adapting to the needs of customers, large and small

Unrivalled large system experience

>100,000 lights

Georgia Power*
Essex
Hertfordshire
Birmingham

>50,000 lights

Edinburgh
Suffolk
Leicestershire
Sheffield
Gloucestershire
Warwickshire

and more…

Doncaster
Cambridgeshire
Dudley
Coventry
Leicester
Wiltshire
Peterborough
Wellington
Harrisburg
Welsh Government

Northamptonshire
Poole
Neath
Hackney
Bracknell Forest
Windsor & Maidenhead
Blaenau Gwent
Bedford
Wokingham
West Berkshire

*World's largest smart streetlight deployment at 300k lights to date
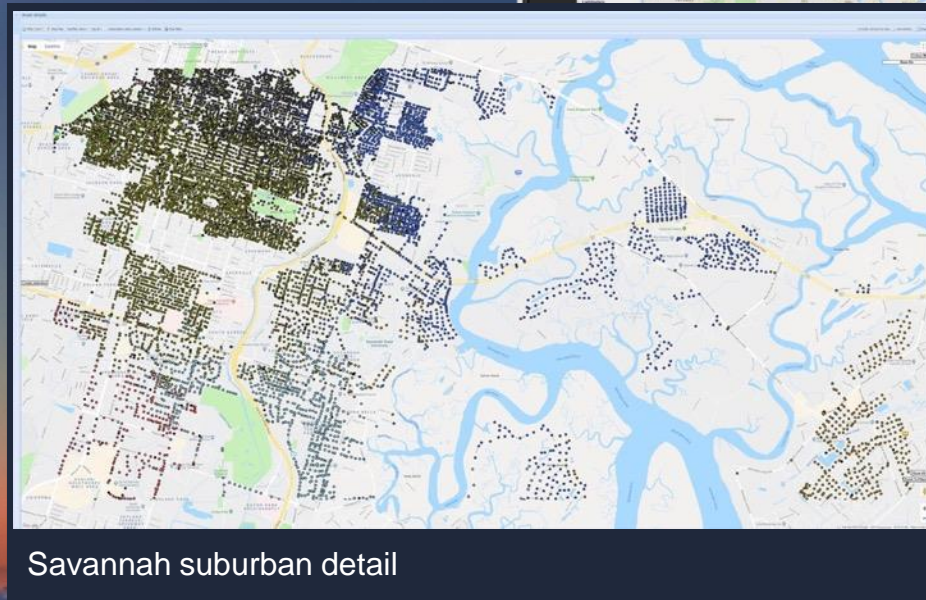
Case study: Georgia Power, GA

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- 300,000+ lights deployed
- State-wide: urban and rural
- Time-of-use energy tariffs

Independent case study

Download
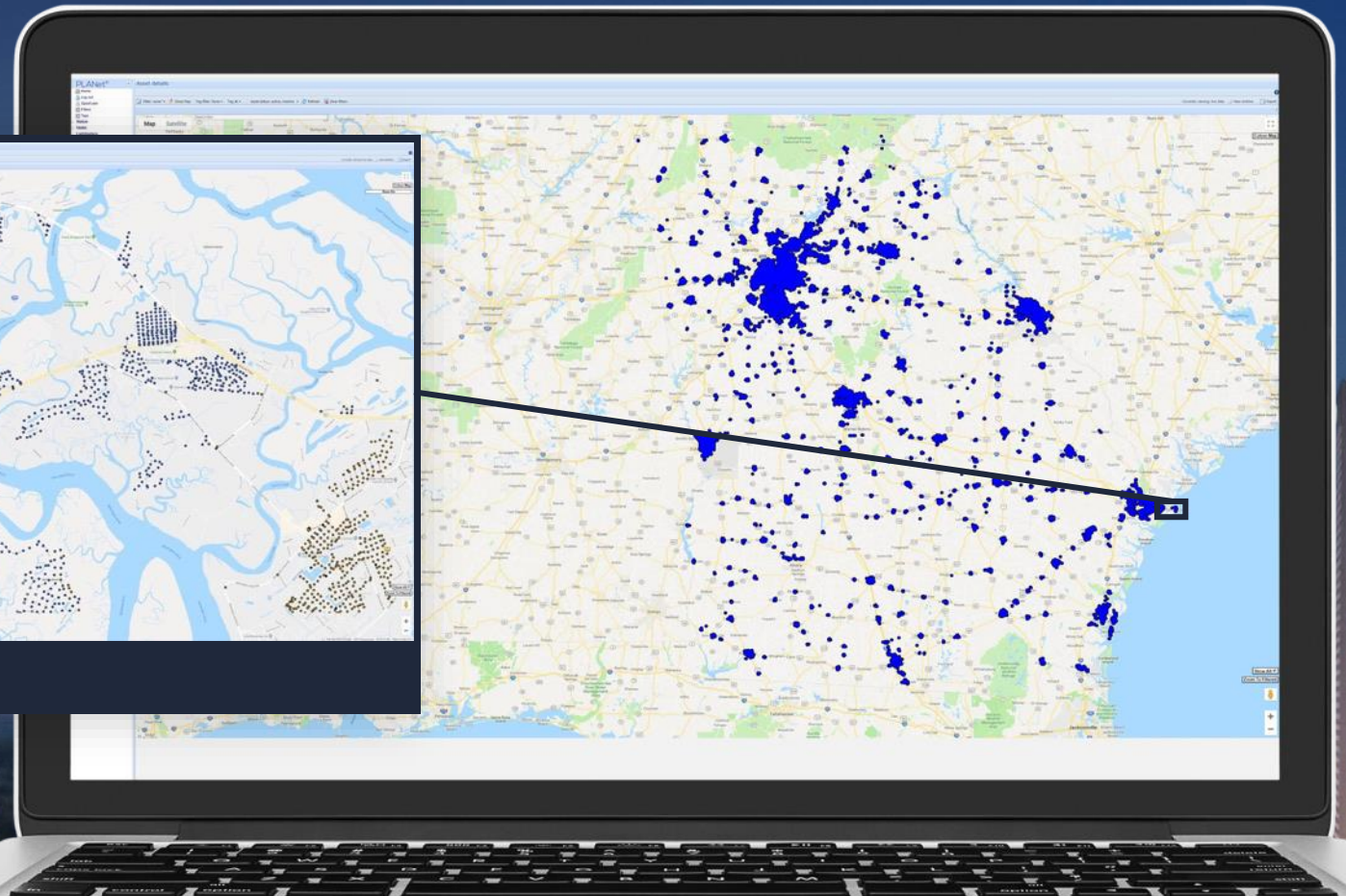
Savannah suburban detail

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