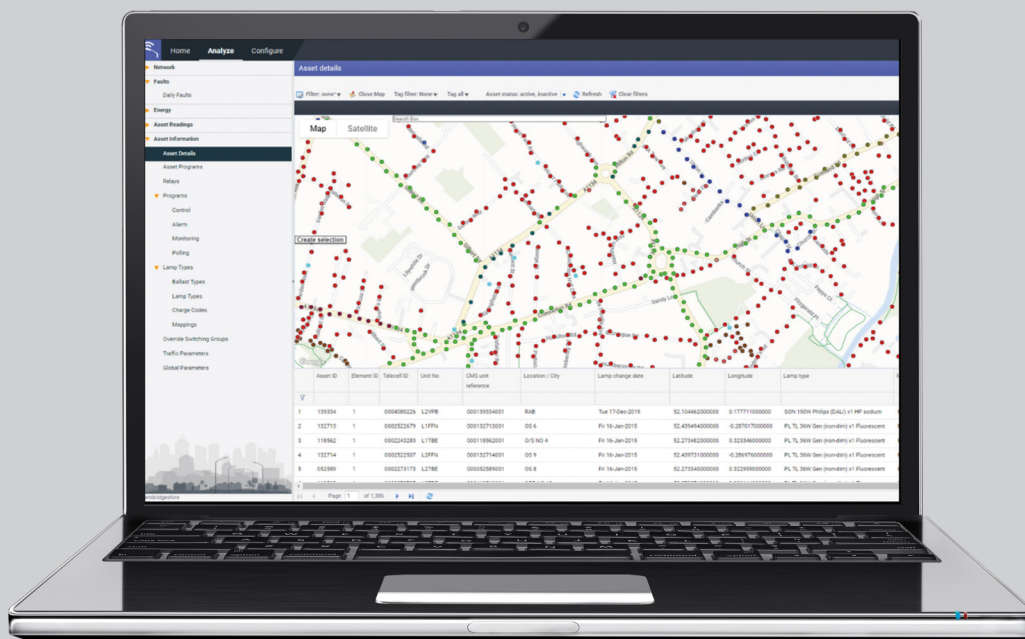


PLANet[®] CMS application for street and area lighting



PLANet[®]

CMS application for street and area lighting

Telensa PLANet is the only Central Management System (CMS) for outdoor lighting with multiple large deployments, each controlling hundreds of thousands of lights. PLANet combines the sophistication, scale and flexibility to manage city, region or utility lighting populations.

Advanced mapping interface

Unique ability to view large deployments on one screen. Includes geo-fencing, color-coding, filtering and tagging functions. Google Maps enterprise mapping system with satellite and streetview.

Sophisticated dimming and switching programs

for any combination of lights or groups of lights:

Timed – at x-minute intervals
Sensor – algorithm-moderated sensor dimming e.g. from sensors

System – algorithm-moderated dimming using data from other systems.

Flexible hosting options

Customer, Telensa, or 3rd party.

Integration

Integration with leading Asset Management Systems (AMS) for automation of fault reporting and work orders. Including:

- Pitney Bowes Confirm
- Symology.

Energy management

Revenue grade energy consumption analysis and energy billing system integration.

Sophisticated fault diagnosis

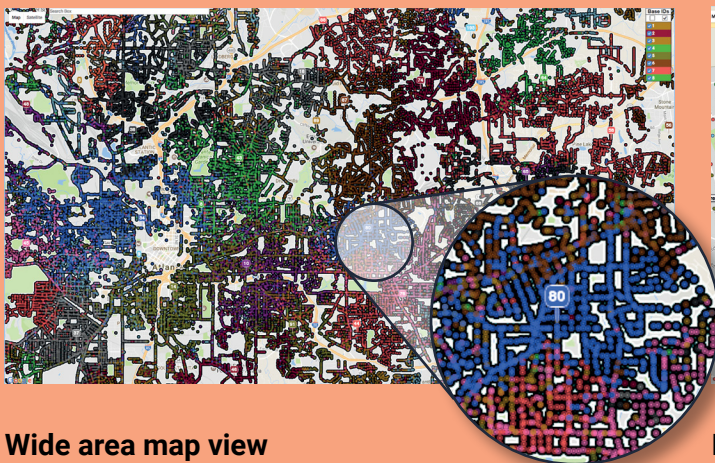
using advanced modelling techniques. Saves money by improving first-time-fix rate.

Multi-district operation

A single area system can be shared and operated by different district municipalities, utilities, or campuses.

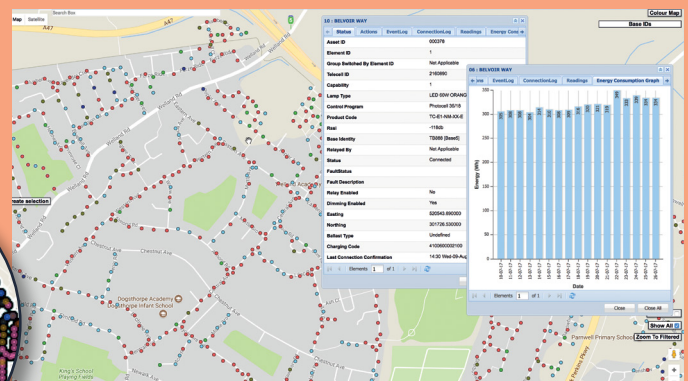
Web interface

for remote access with multiple devices.



Wide area map view

- From small installations to 100,000+ lights displayed on a single screen
- Color coding, for example by base stations



Detailed mapping and satellite view

- Detailed status reporting and programming
- Revenue-grade energy reporting

Control

PLANet's user friendly control programs work with any combination of lights in the city. Programs can be based on a variety of parameters, including timing, solar and sensor inputs. Lighting managers retain complete control to override programs in response to events.

Switching methods:

- by time e.g. 5pm
- by solar calendar e.g. 10 mins after sunrise
- by light level e.g. 1 fc / 11 lx
- any combination of these

Standard control programs:

- photocell
- part night on/off
- part night dim
- fixed times

Constant light output

- lumen depreciation
- maintenance factor

Custom control programs:

- up to 10 switching steps

Days of week control:

- e.g. different switching at weekends

Calendar control:

- special events
- seasonal adjustments

Dimming control:

- dim to any level 0-100%
- scheduled dimming
- sensor-based dimming
- 3rd party system-based dimming

Trimming:

- optimised/auto trim burning hours

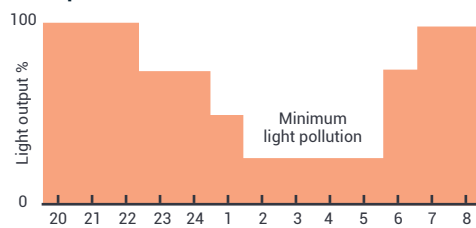
Override:

- quick switching changes across groups/whole population
- in response to external sensors or system inputs
- respond to incidents
- special events
- use for maintenance

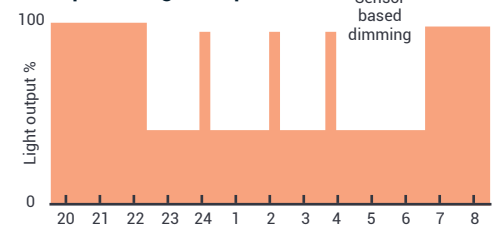
Load reduction

- enables demand-side balancing

Example 1: Park



Example 2: Large Campus



Monitoring and fault detection

PLANet takes regular and detailed measurements from every light, and displays this information in an intuitive map-based interface. Threshold parameters can be set to trigger alerts, and lighting managers can interrogate individual lights at any time.

Lamp condition:

- failure
- cycling
- day burning

Telecell unit:

- missing data (from loss of supply or communications)

Times:

- switching times
- burn hours
- event log

Energy:

- active energy
- cumulative energy

Electrical:

- instant power
- instant current
- instant power factor
- average power
- average current
- average power factor

Input power:

- instant voltage
- average voltage
- low voltage
- power cycles

Advanced anomaly detection:

- abnormal energy loads
- fault trends

Maintenance

PLANet eliminates the need for regular night inspections because lights report their own faults. Diagnostic information improves first time fix rates and Asset Management System (AMS) integration streamlines inventory and work order generation.

Reducing night maintenance inspections:

- avoids patrolling in dangerous areas
- inspections can be less frequent and carried out during the day

Fault diagnosis:

- lamps: failure, cycling, day burning
- ballasts: power factor
- mains supply: power cuts, over voltage
- lost connection: internal wiring, column down

Reducing repair times:

- avoids time wasted between night inspections
- understanding lamp failures enables repair to be scheduled more quickly

Improving inventory:

- monitoring reveals potential discrepancies in inventory

Extending range of information available:

- Input power profile
- maintenance operatives' performance

Group relamp/change policies:

- prompt failure detection means bulk change period can be extended, while maintaining overall outages levels within targets

Ordering Information

System Order Information	Type of Charge	Occurance	Description
NET-TEL-**	Services	Initial - One time	Initial network set-up and services charges; Charges will vary based on hardware requirements and new or existing installation
SAAS-TC-HOST-**	Subscription	Annual based on telecell quantity	Network hosting based on installation size
SAAS-**-SUPPORT	Subscription	Annual based on hardware quantity	Remote monitoring per basestation and telecell
SAAS-BS-MAINT	Subscription	Annual based on hardware quantity	Remote maintenance per basestation

NOTES:

**To be completed by CLS Customer Support based on installation details

