

# PLANet system

## Public Lighting Active Network



### System features

The PLANet system provides comprehensive capabilities across all aspects of control, monitoring, fault detection and energy reporting.

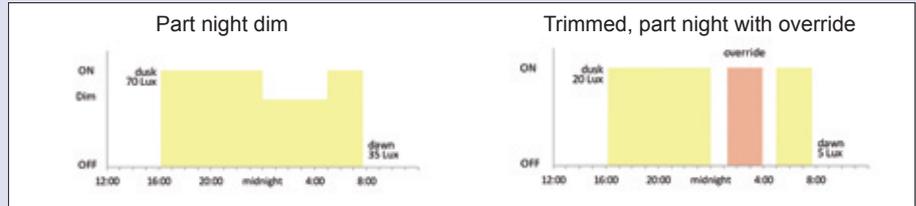
The PLANet solution drives improvement in maintenance, integrates to asset management systems and enables real financial savings from energy reductions.

#### Control

Switching and dimming control is extremely flexible in the PLANet system. Lights are grouped according to their switching program. There is no limit on the number of groups and programs can be configured with a range of options:

<b>Switching methods:</b> <ul style="list-style-type: none"> <li>by time e.g. 5pm</li> <li>by solar calendar e.g. 10mins after sunrise</li> <li>by light level e.g. 10 Lux</li> <li>combination of these</li> </ul>	<b>Days of week control:</b> <ul style="list-style-type: none"> <li>e.g. different switching at weekends</li> </ul>	<b>Trimming:</b> <ul style="list-style-type: none"> <li>optimised/auto trim burning hours</li> </ul>
<b>Standard control programs:</b> <ul style="list-style-type: none"> <li>photocell</li> <li>part night on/off</li> <li>part night dim</li> <li>fixed times</li> </ul>	<b>Calendar control:</b> <ul style="list-style-type: none"> <li>special events</li> <li>seasonal adjustments</li> </ul>	<b>Override:</b> <ul style="list-style-type: none"> <li>quick switching changes across groups/whole population</li> <li>respond to incidents</li> <li>use for maintenance</li> </ul>
<b>Custom control programs:</b> <ul style="list-style-type: none"> <li>up to 10 switching steps</li> </ul>	<b>Dimming control:</b> <ul style="list-style-type: none"> <li>with 0-10v or DALI ballasts</li> <li>dim to any level 0-100% (ballast permitting)</li> </ul>	

#### Examples



#### Monitoring and Fault Detection

Each TELECELL unit can measure an extensive range of parameters. Readings can be returned using programmed monitoring or ad hoc interrogation. Measurable parameters include:

<b>Lamp condition:</b> <ul style="list-style-type: none"> <li>failure</li> <li>cycling</li> <li>day burning</li> </ul>	<b>Times:</b> <ul style="list-style-type: none"> <li>switching times</li> <li>burn hours</li> <li>BSCP event log</li> </ul>	<b>Electrical:</b> <ul style="list-style-type: none"> <li>instant power</li> <li>instant current</li> <li>instant power factor</li> <li>average power</li> <li>average current</li> <li>average power factor</li> </ul>	<b>Mains supply:</b> <ul style="list-style-type: none"> <li>instant voltage</li> <li>average voltage</li> <li>low voltage</li> <li>power cycles</li> </ul>
<b>TELECELL unit:</b> <ul style="list-style-type: none"> <li>temperature</li> <li>missing data (from loss of supply or communications)</li> </ul>	<b>Energy:</b> <ul style="list-style-type: none"> <li>active energy</li> <li>cumulative energy</li> </ul>		

Some of the measurable parameters can be used to generate faults or warnings. These are reported and summarised on a daily basis. On some parameters, thresholds can be set which, when triggered, can cause immediate alarms.



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#### Energy Reporting

The first requirement in managing energy consumption is to be able to measure it accurately.

Each TELECELL unit contains a metering chip so cumulative active energy is measured precisely for every fixture. This allows true energy consumption to be shown for any filtered set of lights for any calendar period.



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### Maintenance

With comprehensive monitoring capabilities, the PLANet system is an effective tool for improving and streamlining maintenance operations, resulting in a better lighting service for the public. The system contributes significantly to delivering an enhanced service by:

#### Reducing night maintenance inspections:

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

#### Fault diagnosis:

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

#### Bulk lamp change policies:

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

#### 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

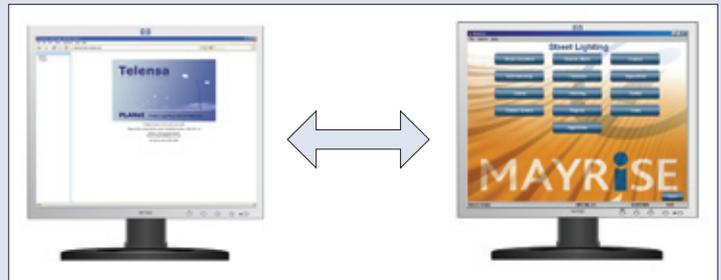
#### Extending range of information available:

- mains supply profile
- maintenance operatives' performance

### Integration with Asset Management

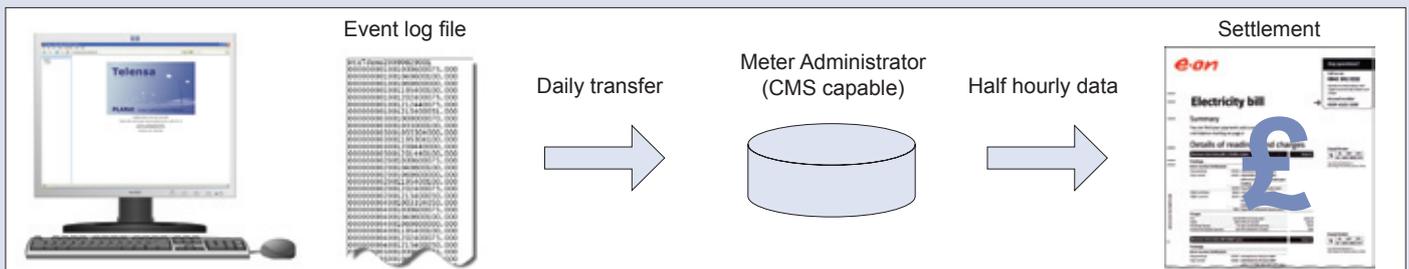
The PLANet system can be interfaced to asset management systems allowing the import and export of asset data and fault reports.

The interfaces range from simple CSV based file transfer to XML based web service interfaces to popular systems such as Mayrise and Pitney Bowes 'Confirm'.



### Elexon CMS

The PLANet system is approved as an Elexon CMS. It produces a daily log which contains switching times and load levels for each individual light; if the light is not being dimmed, the load used is the standard Elexon circuit watts. The log is packaged in a file and sent overnight to the Meter Administrator for processing into half hourly energy consumption values; these are then used as the basis for energy invoicing. Used in this way any reduction in burning times and/or dimming levels translates into lower energy bills.



### General

The Graphical User Interface is powerful, with flexible screen handling options:

#### Columns:

- hide/show
- re-order
- re-size
- sort

#### Rows:

- filter (text,date/time,value)
- pagination

#### Pages:

- customise layout
- save layout
- export

#### System administration:

- user access levels
- backup/restore
- archive

Readings data can be exported for further analysis in spreadsheets

