



**Lighting, Automation &  
Building Management Solutions**

**POWER  
TUNING**

**Our WORD**

In Power Tuning (PT), we use our experience in lighting, and our passion for serving our clients, to reach superiority and perfection. Power Tuning does not focus only on energy efficiency in its solutions and products; but on its service effectiveness too.

I have been involved in lighting projects since 2005. Lately in 2013, I had begun working through PT, the house of lighting fixtures, technologies & controls.

Please look thoroughly in our products, systems, solutions and services range, to honor us serving you the professional way you deserve.

Eng. Ramy El-Zabel  
Managing Director

**Our WAY**

**Integrity & Honesty:**

We care not only for the end result, but how it is obtained. We demand ethical conduct in all of our activities.

**Teamworking:**

Maintain a workplace that offers open opportunities to all. We also believe that listening is usually smarter than talking.



**Respect:**

Disrespectful language of a person's race, religion, color, gender or any other protected class doesn't fit in our workplace that values diversity.

**Responsibility:**

We don't have the habit of making excuses. We try to work to the utmost of our ability in each job.

**Commitment:**

Customer, provider and supplier relations are the cornerstones of our business.

**Our LIGHT**

**Visioning** to offer a unique engineering services to our partners, to help them dig more deep in their profession; which will reflect on our society for a better life for our children, in a civilized society; that should be brave enough to encourage innovation for solving problems.

To do so we pack our knowledge, diligence and punctuality, with every task in a mission of blending multi-discipline techniques to extract up a distinctive outcome; that can express us; by identifying our values, picturing our way and fulfilling our needs.

**Our PATH**

Explore some of our work, services and solutions for lighting & lighting controls projects.



**Lighting Solutions**



**Lighting Controls**



Our PASSION



Lighting & Controls Concepts & Designs

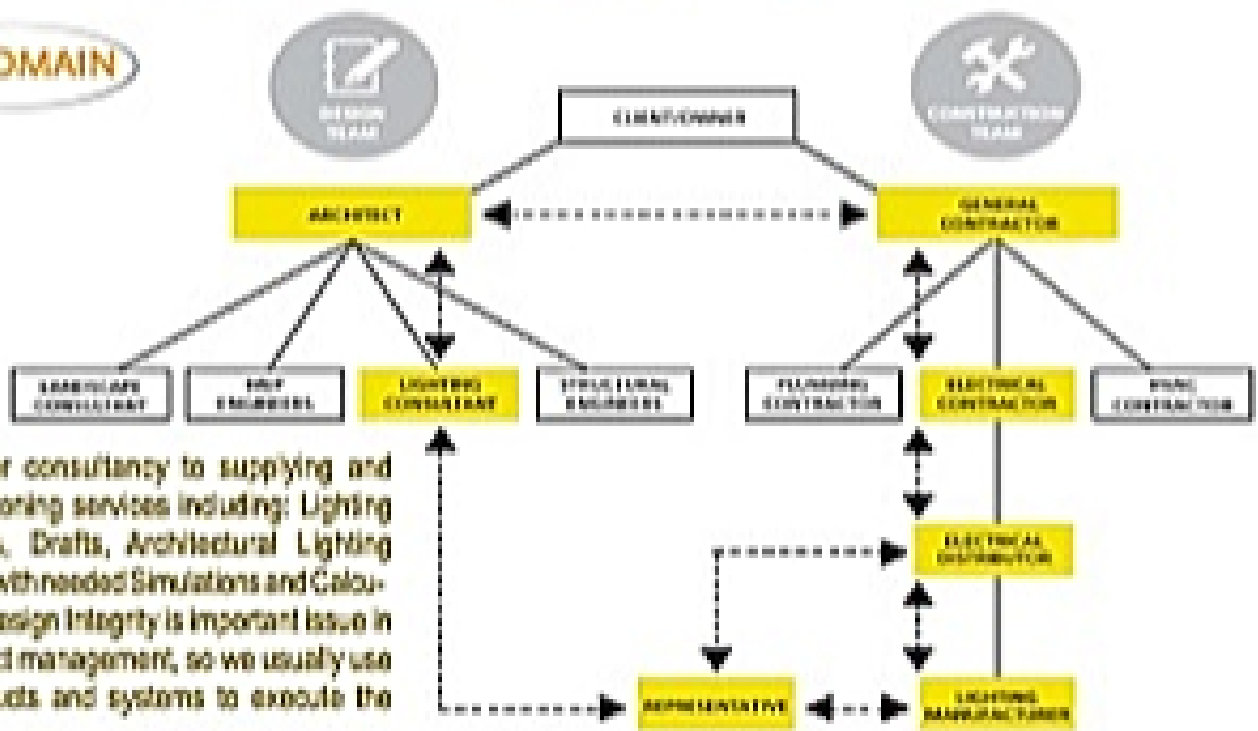
Calculations & Simulations

Customized Solutions & Integrated Systems

Supply, Install, & Project Management



Our DOMAIN



We offer consultancy to supplying and commissioning services including: Lighting Concepts, Drafts, Architectural Lighting Designs, with needed Simulations and Calculations. Design Integrity is important issue in our project management, so we usually use our products and systems to execute the design.

Source: IALD/LIRC GUIDELINES FOR SPECIFICATION INTEGRITY

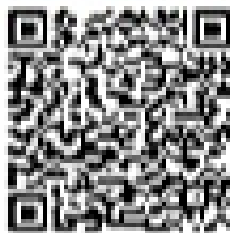
Lighting design is an architectural work that should combine architectural design targets with many technical standards. Good lighting design is not simply about achieving a required illuminance on the working plane, it is about creating and controlling the lit environment (Peter McLean, *Best Practices in Lighting*, 2004). Therefore the lighting knowledge of a lighting designer should expand to different fields of sciences and researches beginning with simple lighting spaces standards to the technologies available in the lighting market, even to health issues, where many research works prove that good lighting enhances the mood and desirability of spaces as it contributes greatly to people's sense of well-being (iaid.org).



### Energy Efficient Lighting Designs



### WELL Certificate



### Lighting Automation



### Specifying Lighting Controls Systems



In the daylighting design, we use the building itself to become "the luminaire". The windows and skylights deliver daylight to the interior spaces, while the building surfaces act as shading devices and reflectors to direct and shape the resultant daylight distribution. An opening in a building that admits daylight is technically called the daylight "aperture." This combination of architectural elements that deliver and shape the daylight to the space (that is, the aperture, glazing, shading devices, and primary reflecting surfaces) may be thought of as a "daylight luminaire." (Advanced Lighting guide, 2003)

## Daylighting Design Services & Solutions



## Lighting Controls Strategies & the Expected Energy Savings

### Daylight Linking

up to 20%

Daylight (lumen) sensors can automatically adapt the lighting levels taking into account the available daylight.

### Task Tuning

up to 30%

Energy waste caused by over-lighting is avoided by setting standard lighting levels based on specific jobs or applications.

### Occupancy Control

up to 35%

Movement dependent sensors can automatically switch the lighting on or off or dim it.

### Individual Control

up to 35%

Users can customize their work-space lighting. This is easily done with pc personal control software, and/or mobile apps.

### Scheduling Time Control

up to 50%

Lighting adjustment based on calendar schedules. For example, day and night scenes, updates meeting rooms schedules, and public spaces.

### Scenes Setting

(not defined)

Light is adjusted to the various functions of the same room. Another important application, is the architectural lighting scenarios, like facade lighting.

### Peak Restriction

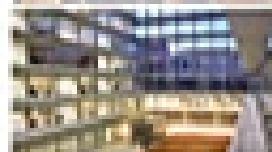
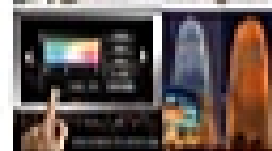
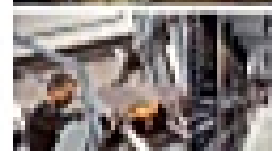
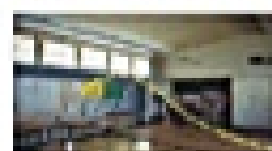
up to 10%

By continuously monitoring the power in a building and automatically controlling the lighting via dimming or switching, peak loads can be reduced.

### Lumen Maintenance

up to 20%

Dimming down to the designed standard lumens values in new installations, helps saving energy and fixtures life time.



Company

Services

Lighting

Lighting Controls

Automated Systems

Smart City

Smart City

**Lighting - Products**

**Indoor Fixtures:**



**1. Linear & LEDs Tubes**



**2. HighBays**



**3. Spots & Ceiling Surface**



**4. Downlights**



**5. Wall Recessed & Appliques**



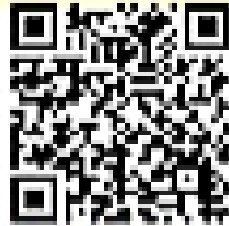
**6. Pendants**



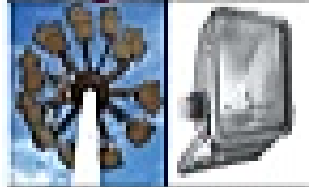
**7. Furniture Integrated**



**Outdoor Fixtures:**



**1. Flood Light**



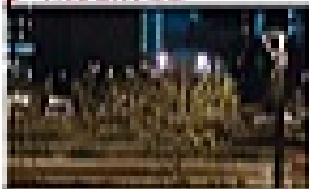
**2. Underwater LEDs**



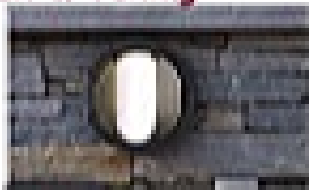
**3. Street Light**



**4. Top-Mounted**



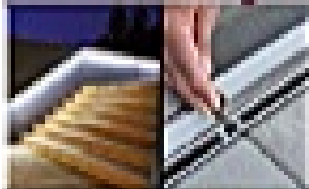
**5. Wall & Ceiling**



**6. Landscape**



**7. Construction Integrated**



**Special Systems:**



**1. Linear & Track Systems**



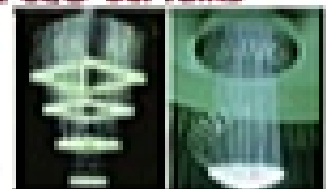
**2. EX & Industrial Fixtures**



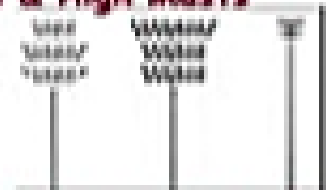
**3. Em. Fixtures & Systems**



**4. FO & LED Curtains**



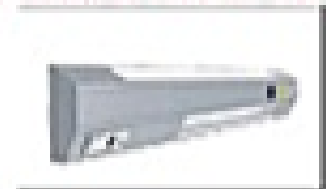
**5. Poles & High Masts**



**6. Hospitality & Decorative**



**7. Clean Room & Health Care**



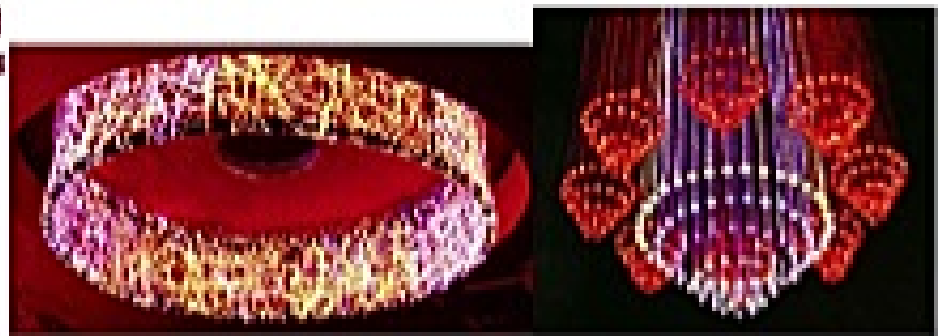
**Architectural & Customized Lighting Fixtures & Accessories:**



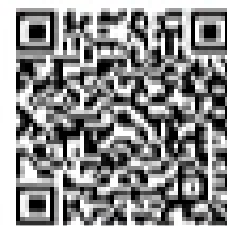
**Filters & Diffusers**



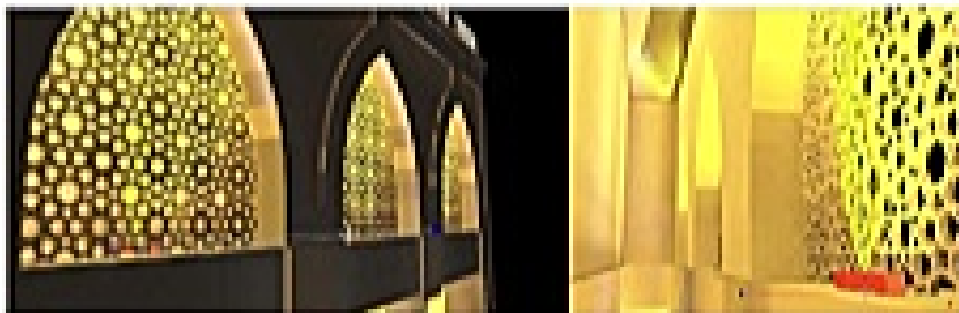
**Fiber Optics Customized Solutions - Case Studies**



**Dynamic Lighting Control Solutions**



**Applications & Solutions Guides**



**Designs Services**



# Lighting Controls Solution Guide



Lighting Controls and automation lighting systems are numerous, each one is preferable for a specific application. Therefore, we are presenting here our guide to choose the generally suitable solution for different parts of a general building, for fulfilling lighting targets of comfort, energy savings codes and architectural lighting scenes.

**Stand-Alone  
Programmable  
Detectors**

Stand-Alone Programmable Detectors  
IP65 Wall Mounted



Architectural  
Lighting Control

Energy Savings are the main target with no need for connecting to building systems, with the minimum cost. It controls single rooms or definite areas.

**KNX  
Lighting  
Control &  
Automation**

Please see P. 10 & P.11 for KNX & other networked systems

**Stand-Alone  
Advanced  
Controller**

Stand-Alone Advanced Controller  
IP65 Wall Mounted



Architectural  
Lighting Control

For applications with several circuits to be dimmed or switched, with the ability to connect sensors for automation and energy savings. Switches and scenes selectors can be used, but with no need for connecting to building systems. It can control several rooms, large areas or applications with different lighting scenes.



**DALI Addressing Controller**



For applications with different lighting scenes with overlapped fixtures groups, with the ability to connect various sensors for automation and energy savings. Switches and scenes selectors can be used, with scalability possibility of connecting other modules, and can be connected to the BMS. It can control large halls or exhibition spaces with different lighting scenes.

**Fully Connected & BMS Integration**



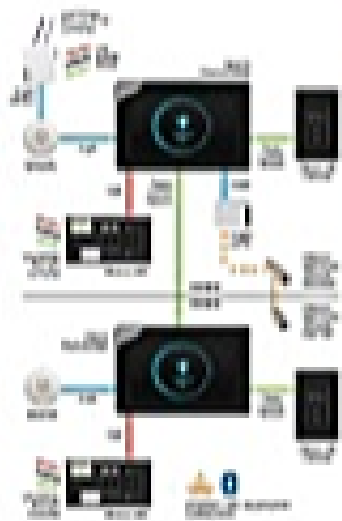
For a fully lighting control system that is connected and integrated to other building systems. Various LCMs for switching loads or dimmable lighting loads, RAPID sensors or DALI sensors, various interface options; are all parts of the system. RAPID system can be connected to the BMS, and can be monitored remotely.

**Lighting Relays Panels**



For large lighting loads, e.g. area lighting applications, the Relay Panel delivers cost-effective 0-10V dimming and switching for your building design needs. The panel communicates with an nLight network and supports up to 128 digital devices per nLight control zone. Offering a full range of panel sizes, the nLight Relay Panel is ideal for spaces that require full circuit control, photocell alarm inputs dry contacts, with the optional flexibility of configuring single pole relays into a two or three-pole relays in the field.

**Dynamic Lighting Controllers**



For dynamic lighting designs based on different scenes, uses of space or colours. Whether it be architectural, entertainment, or multi-use, different lighting technologies are bound to be used within the same space. The simplest way to produce layered effects, where a full spectrum of capabilities are driven through a single system. Sensors, dimming, scene and advanced color control all speak the same language.

Company

Services

Lighting

Lighting Controls

Networked Systems

Smart City

BMS

**Networked Systems**

**KNX Lighting Control & Automation**



For a fully lighting control & automation system that is connected and integrated to other building systems, KNX-DALI gateway is a complete DALI function system, with versions with one or two DALI channels. The DALI2 capabilities have many architectural functions, which in addition to the KNX automation capabilities, make a very powerful system.



**Wireless Lighting Controls**



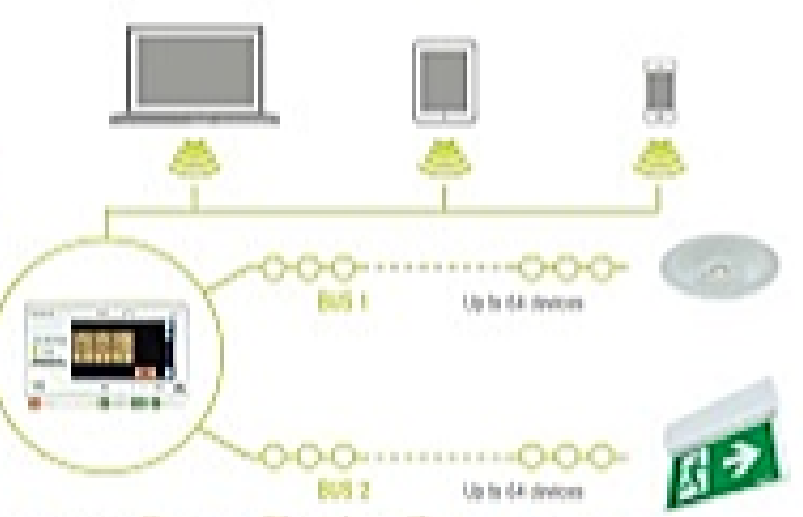
An Wireless technology allows you to install a fully featured lighting control system with minimal disruption.

Ideal for historic and listed buildings where disturbing the building fabric is difficult or impossible. Also, it is very practical for reorganisable spaces, such as living rooms, work spaces, open-spaces, display areas like show-rooms and museums.

**Emergency Systems & Lighting Control**

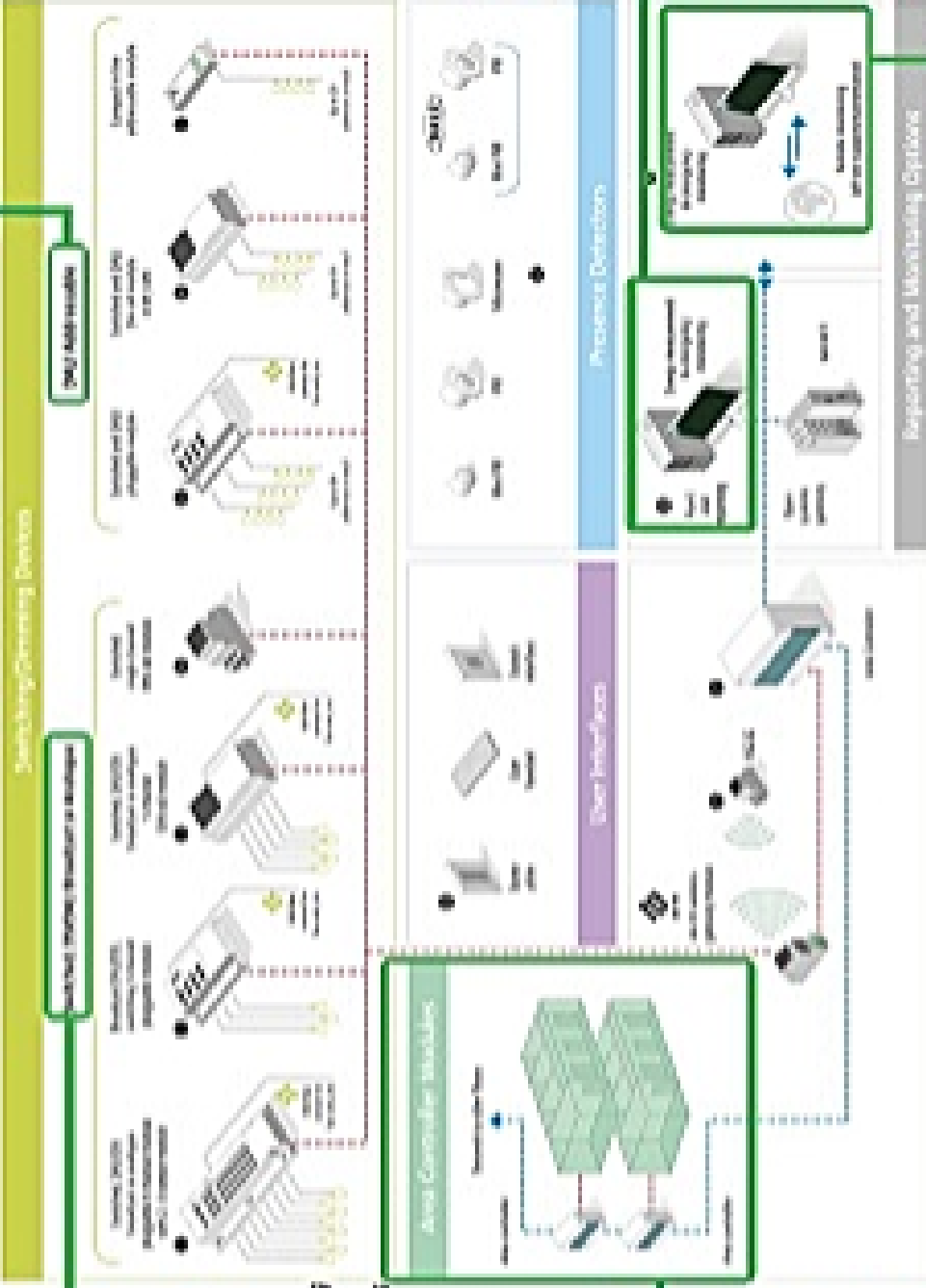


Centralized and remote management system for multiple emergency lighting installations for monitoring and maintenance.



# RAPID SYSTEM

## Functions & Parameters for Green Buildings



The maximum usage of artificial lighting through different system functions, that exceeds the Standards demands for specific control of channels that actively use energy in different building areas

- Switchable Channels lighting Control Modules (LCM)
- Individual addressing of outputs
  - Adjustable off-delays and group delays
  - Adjustable start up lighting levels
  - Scene control for each channel.

The backbone controller of the system that enables smart functions and connectivity to BMS, which achieves the Standards parameters concerning system integration, events control and emergency time schedule

The RAPID Area Controller has 3 switchable CANBUS outputs for connection of floor networks including ICMs, and DAU gateways. In addition to this there are 3 corresponding BUS ports for RAPID CAN BUS monitoring via the PC. Optional ICM/P addressability via an on-board terminal port which allows for connectivity to the building network. If SELV inputs allow for direct connection of switches to it, there is also an integrated volt free output for connection of emergency test or other interfaces.

Fully Addressable sub-networks in the RAPID system, makes it very flexible to achieve all energy figures in the norms, while dimming specific zones to benefit with the available daylight, make the system obtain additional points in the ratings

Used in conjunction with our range of DAU presence detection a single DAU cable can be run to digitally control all the lighting and power the sensors. This saves time and money on additional specialty cable. It is ideal for chilled beam, continuous run lighting, and case areas.

No need of energy meter for the lighting system, as RAPID exceeds the standards in the following:

- 1- Each Section (Area) has its full energy data
- 2- Analysis of Data
- 3- Feedback of faulty items through DAU sub-networks

The RAPID system of fully networkable devices can now interconnect with all levels of energy management in building spaces, measuring and reducing energy consumption.

Remote Monitoring helps the building's maintenance plan, achieving several points in ratings and help sustainable operation.

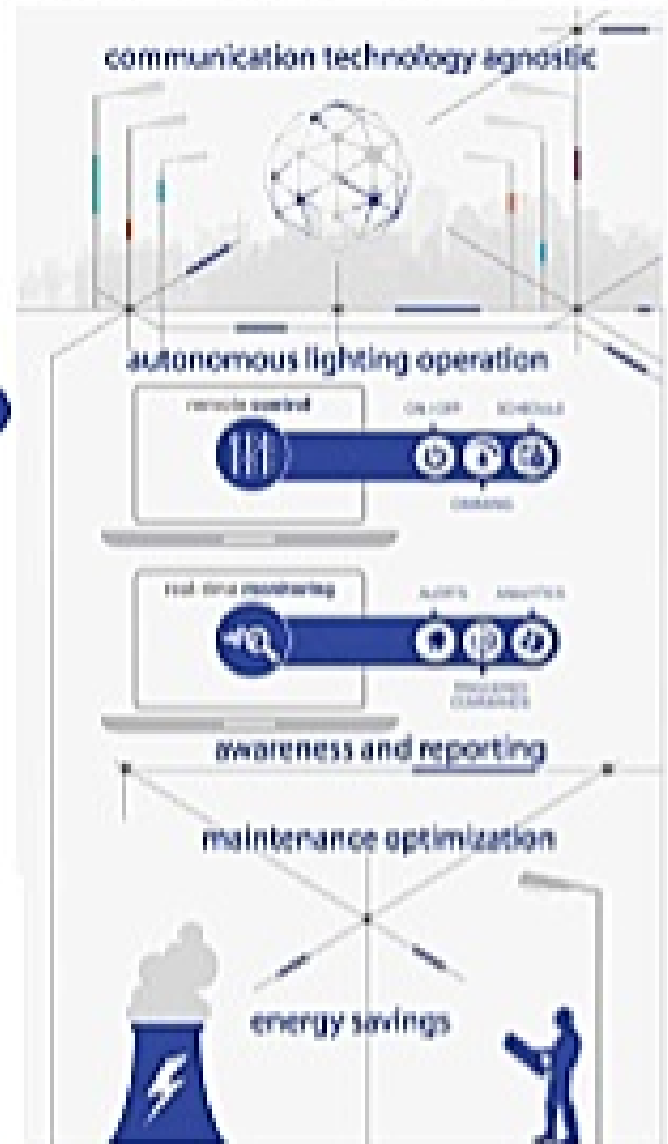
## inteliLIGHT Smart City Platform

Due to the lamp-level control, the smart streetlight networks managed by inteliLIGHT® are continuously under power. Therefore, there is a large number of sensors and IoT devices that can be supplied from the smart street lighting grid, using any available communication and being coordinated through the street lighting software inteliLIGHT® StreetLight Control or other IoT platform dedicated application. Some of them will target to improve the citizens' lives and help you maintain a safer city environment, like CCTV cameras, pollution sensors, noise detectors, traffic density sensors or Electrical Vehicle charging infrastructure. Others will simply help you manage the street lighting efficiently – and light sensors, cabinet and pole door open sensors, pole impact sensors and cable-cut detection are just a few examples. Furthermore, the system supports API connectivity with major city management applications, integrating synergistically with other city systems.

### inteliLIGHT® StreetLight Control SOFTWARE



To make sure that the intelligent street lighting system is flexible and adaptable to any customer and specific project conditions, we have adapted inteliLIGHT® smart streetlight controllers to use several IoT communication technologies: LonWorks® PLC, LoRaWAN™, NB-IoT, Sigfox. Depending on local network coverage and specific requirements, you can use one open communications protocol or combine them in hybrid implementations to meet the project's needs and create connected street lighting infrastructures. This generates unprecedented implementation options, but also allows lightning-fast deployments and commissioning in case of existing public network coverage.



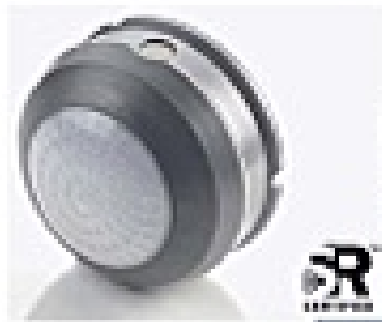
### Community Benefits

- more sustainable cities and cleaner environment
- saves money for your community
- increases lighting service quality

### inteliLIGHT® Hardware Controllers



## CPElectronics Smart Urban Lighting



FDP-3015R-L7 Sensor Ready (SR), Zhaga, IP66, high level, luminaire mounted, PIR presence detector

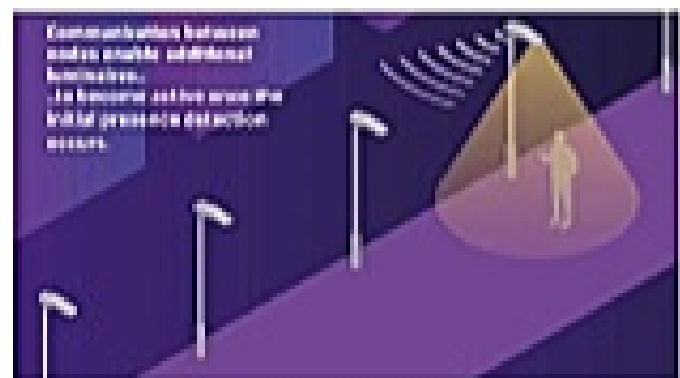
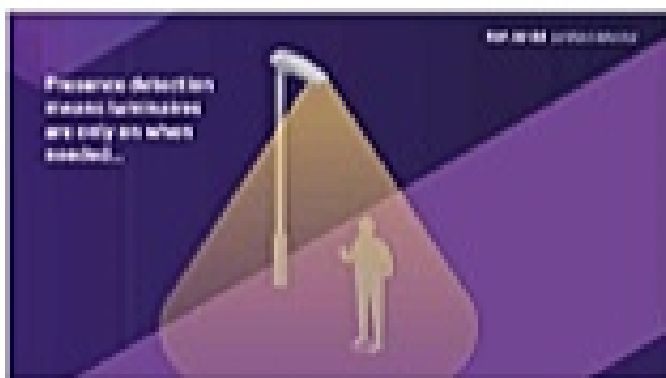


Xitanium SR



The FDP-3015R sensor is a passive Infrared sensor with continuous dimming that is compatible with Philips Advance Xitanium SR drivers. The device is available with an integrated 4 pin, IP66 and IK03 rated NEMA connector (a 4 pin socket sold separately and which attaches to the luminaire). When connected to a Philips Advance Xitanium SR LED Driver, the FDP-3015R sensor can be powered from the driver. The device can be commissioned locally with the Wattstopper Sensor Configuration App or through a compatible network lighting controller (compatibility pending).

Sequence of Operation: Motion Detection / Dimming or Switching / Dusk to Dawn / Networking



Suitable Applications: Parking Lots, Plazas, Pedestrian Street Lighting, Public Parks.  
Not suitable for Roadway Detection

# nLight Platform

The nLight Platform Easily Scales One Room to an Entire Campus; Wired - Wireless - Hybrid



## nLight Lighting Controls Products



## Software



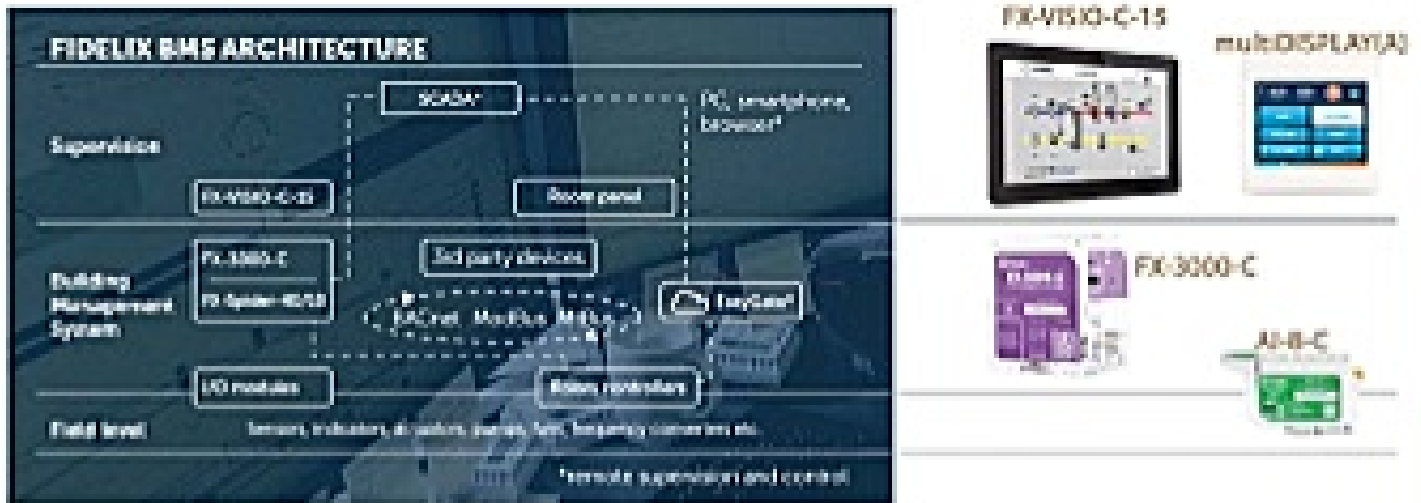
SensorView is a free, intuitive, and easy to use browser-based application that gives authorized users the ability to remotely configure and monitor nLight® and nLight All network luminaires and controlled devices. It provides a simple and quick setup tool for creating custom configuration profiles that can either be scheduled or run on demand. SensorView also can assist with system commissioning by indicating and reporting on sensor and controller settings and displaying live device status.

ENVYSION is a web-based visualization interface that allows you to gain complete insight into your building's performance. Quickly create visualization for your BMS, lighting and energy management systems to deliver actionable visual knowledge. Use ENVYSION with nLight® lighting controls for on/off/dimming control over fixtures and to monitor your lighting system's operations, such as light on/off status, dim level and occupancy state. The nLight ECLYPSE® System Controller is required to access ENVYSION.



## Fidelix Building Management Solutions

A future-proof system with focus on energy cost and carbon footprint optimisation is a smart long-term choice on many levels.



A powerful and scalable tool for the overall control of building technology



A data-based view of property management

Using machine learning, Fidelix Flow How is an easy-to-use software that helps harness the huge amount of data produced by building automation to support the decisions of owners and administrators - easily and intuitively. Flow How helps to optimize resources, identify risks and anticipate the future.

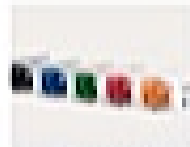
### Fidelix Products Range



Central Unit



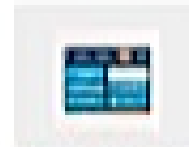
Operating Panel



I/O Modules



Room Controls



Touch Screens



Media Converter



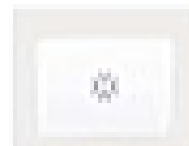
Process Control



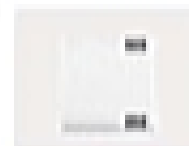
Security Module



Wireless Sensors



Wireless M-BUS Network



Wireless Accessories



## Our Products & Systems

Indoor Functional Lighting Fixtures  
Indoor Decorative Lighting Fixtures  
Indoor & Outdoor Architectural Lighting  
Accessories & Solutions  
Outdoor Functional Lighting Fixtures  
Outdoor Decorative Lighting Fixtures  
Industrial & EX Lighting Fixtures  
Emergency Lighting Fixtures & Systems  
Industrial & Open Area Lighting Control Systems  
Lighting Control Sensors  
Lighting Control & Wiring Connection System  
Lighting Control Controllers & Modules Systems  
Lighting Control Networked Systems  
Lighting Control Architectural Systems  
Lighting Control Wireless Systems  
Lighting Control & Automation KNX Systems  
Lighting Control & BMS Systems  
Smart Cities Platforms, Hardware & Software

## Our Suppliers & Partners



Address: 75 Sakr Qurish, Sheraton, Cairo, Egypt  
Tel.: (+202) 2267 2075  
Fax: (+202) 2268 1807  
Mobile: (+2010) 0621 9325  
Email: [pte@powertuningegypt.com](mailto:pte@powertuningegypt.com)  
Website: [www.PowerTuningEgypt.com](http://www.PowerTuningEgypt.com)