SYCRA
A one-stop solution provider of Green Building, Smart Office, Smart Lighting

Where do we come from?

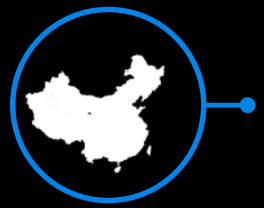
Sycra`s History

2003 | First LED Product

Norbert Ernst created our very first LED Products.

2005 | First Wireless Product

We created our very first wireless controller and our wireless LED lighting controllable tube.



2007 | Opened our Factory in China

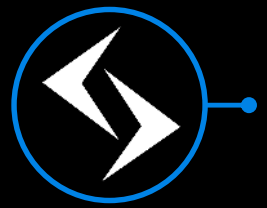
We moved our production plant in Shenzhen China which is now operating full time.

2010 | Astera Architectural

Astera Wireless Lighting has created its Architectural Branch specializing in controllable Architectural Lighting.

2017 | AA becomes Sycra

Astera Architectural has officially become Sycra Technologies and got registered in Hong Kong.



2017 | Sycra Smart System

Sycra has created the PSC (Precision Spectrum Control) along with Sycra CC its own proprietary IoT Smart Management System, Hardware and Software.

And is still developing and improving it today…

Products + Services | Hardware + Software

What we do

Custom Software

We provide custom designs adapted to your needs. Every program is personalized to ensure an optimum solution for your application

Services

- Lighting & System design;
- Current lighting upgrade;
- Lux simulation;
- Energy Management Contract;
- BEC project;
- Carbon audit.

Hardware

- Top end lighting fixtures;
- Control devices;
- Advanced Sensors;
- Edge computing gateways

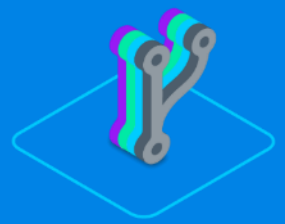
Why SycraTech Smart System?

Smart office / Education & Health facilities

We accompany you throughout the entire process, from free consultation to installation, for a real worry free installation, among other advantages:

Save cost

- No extra wiring, construction work
- Fast installation



Regulatory compliance

- Building Energy Code (BEC) and Energy Audit Code (EAC)
- BREEAM, LEED, BEAM Plus

Easy Management

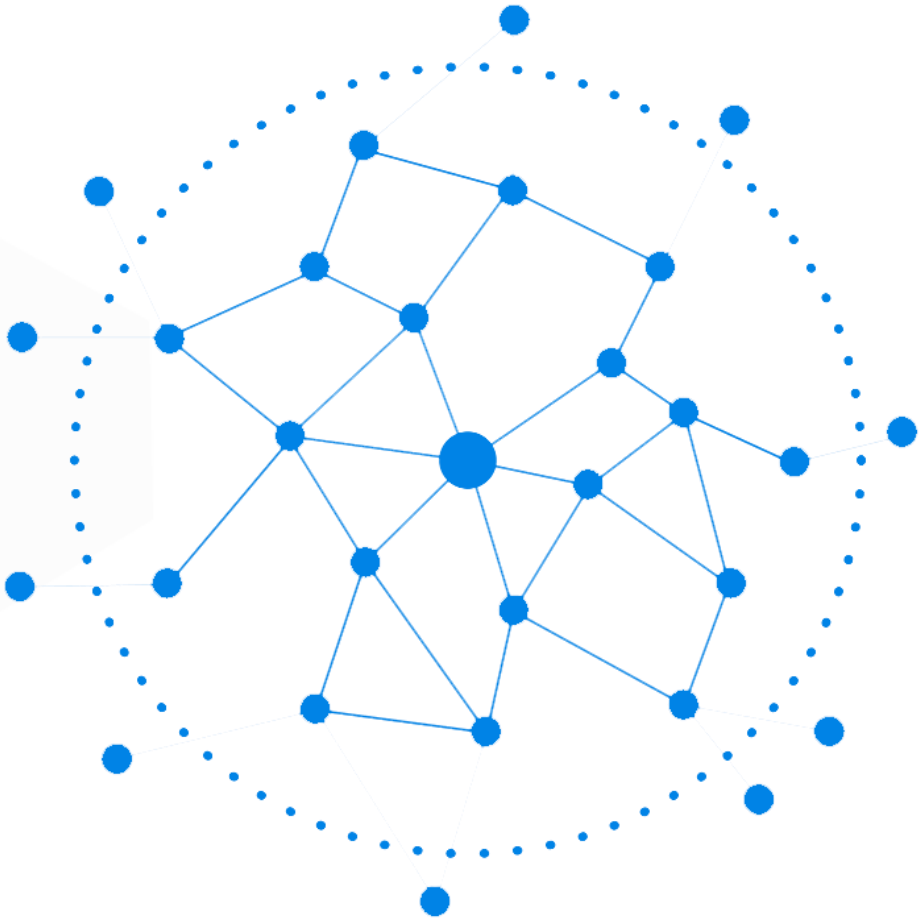
- Real time monitoring
- Historical data analysis
- Smart Maintenance
- Privileges and roles

Flexible

- Scalable Modules
- Plug and Play
- Flexible zoning, grouping

Retrofit to upgrade your lighting system to an intelligent lighting control system.

Smart Plug N Play



Higher energy saving, up to 70%

Faster deployment
- Mesh network

Better occupants experience
- Enjoy 100% comfort

Easy maintenance
- Modular device
- Scalable, on-demand expansion
- Plug-and-Play

Access to additional data
- Energy monitoring
- Occupancy monitoring

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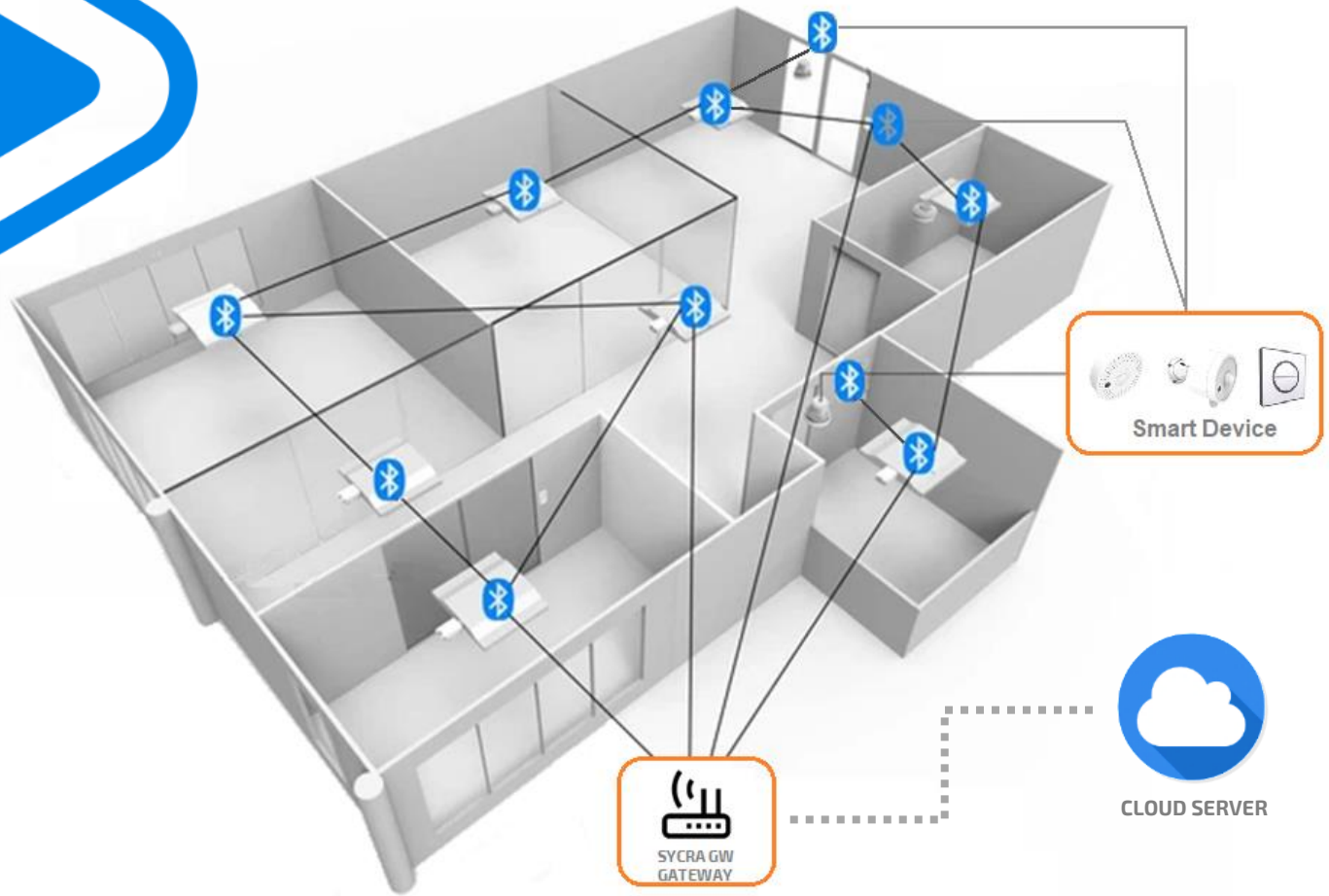
Retrofit to upgrade your lighting system to an intelligent lighting control system.

Smart Plug N Play



Reliable and robust
- Self Troubleshoot
- Single point failure does not affect network

Extended coverage
- No extra wiring

Low Power, long life for battery-powered device

Secure
- User management & authentication.
- Security at each layers, sensor and control messages are encrypted

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Bluetooth – Fastest growing wireless standard

Smart Mesh Network

36,645

Bluetooth SIG members

6.4 Billions

Annual Bluetooth Devices shipments by 2025

The fastest growing Wireless standard

Source: Bluetooth Market Update 2021

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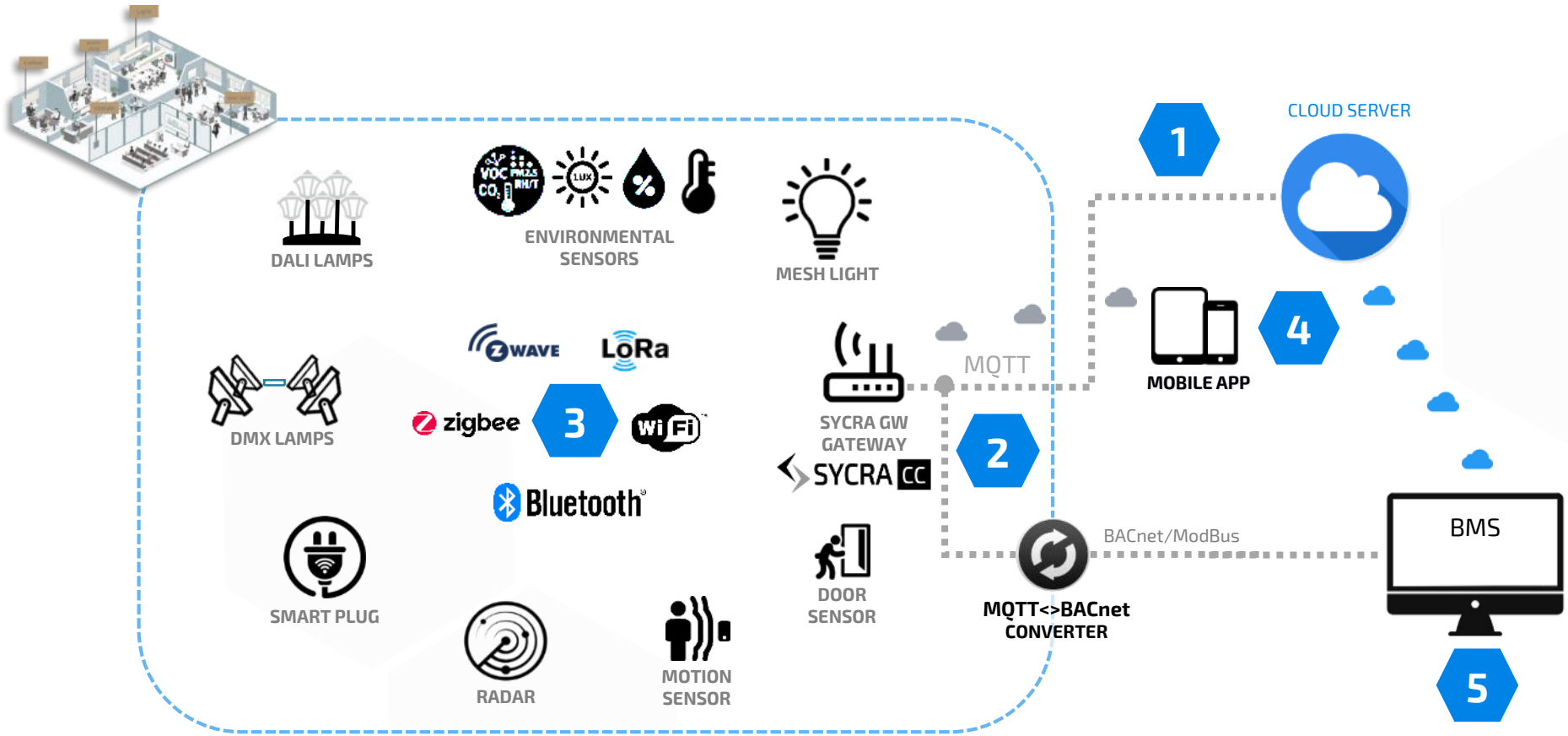
Smart Mesh Network



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Smart Mesh Network

Cloud solutions

Cloud-based control software connects all your offline devices for remote control and monitoring

1

Smart Gateway

Smart hub software can work with any OS and any device

2

Control Freedom

Control free is our holistic system that can control all your desired devices through one simple App

3

Mobile app

Mobile app engineered to control all your connected devices

4

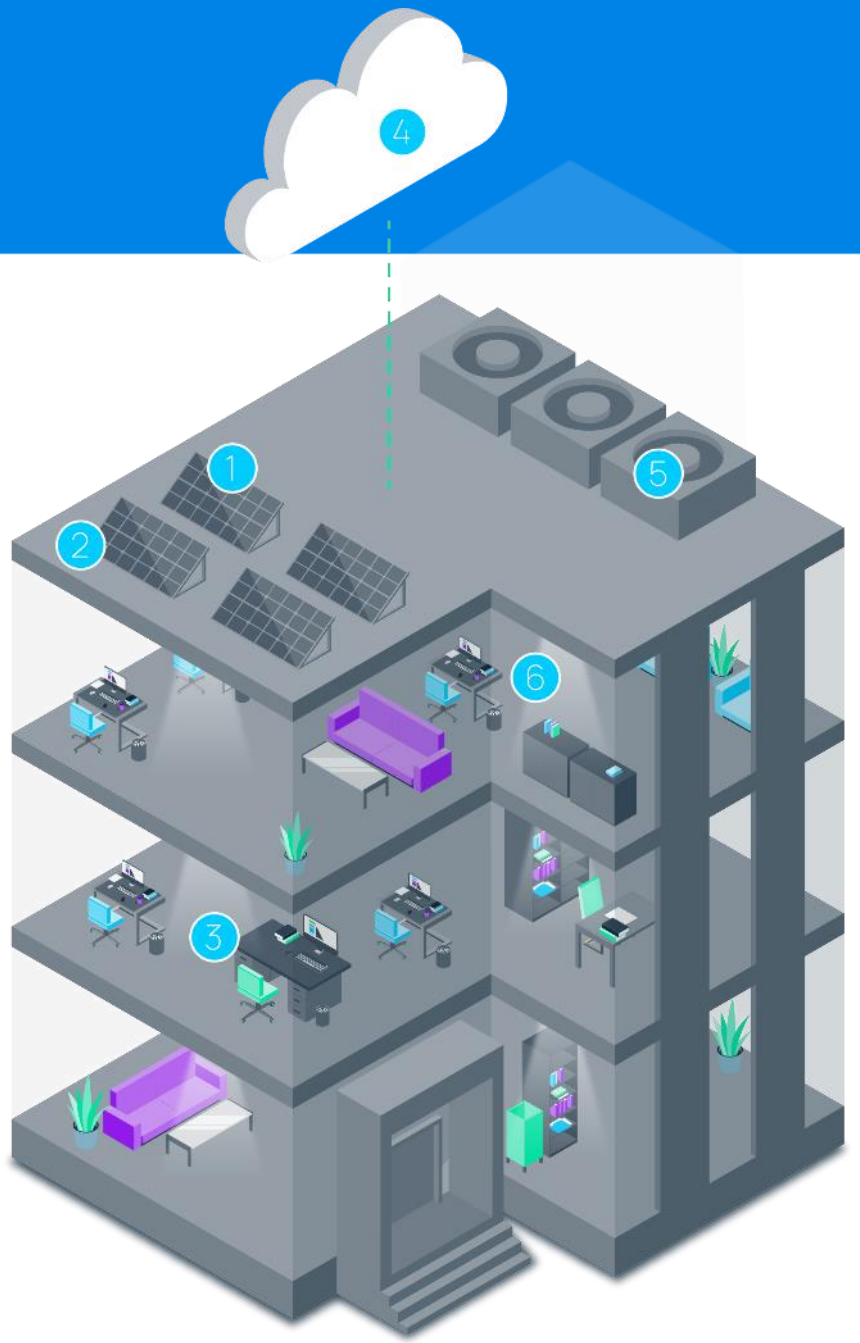
Dashboard

Highly customizable web based dashboard for intelligent building management system (i-BMS)

5

Smart Building Advantages

Smart Management			
	Easy use	Healthy circadian rhythm	Increase productivity
	Smart control	Easy to use	Improve user experience
	Smart management	Utilize resource	Reduce energy cost
	Smart Management	Reduce waste	Eco-friendly



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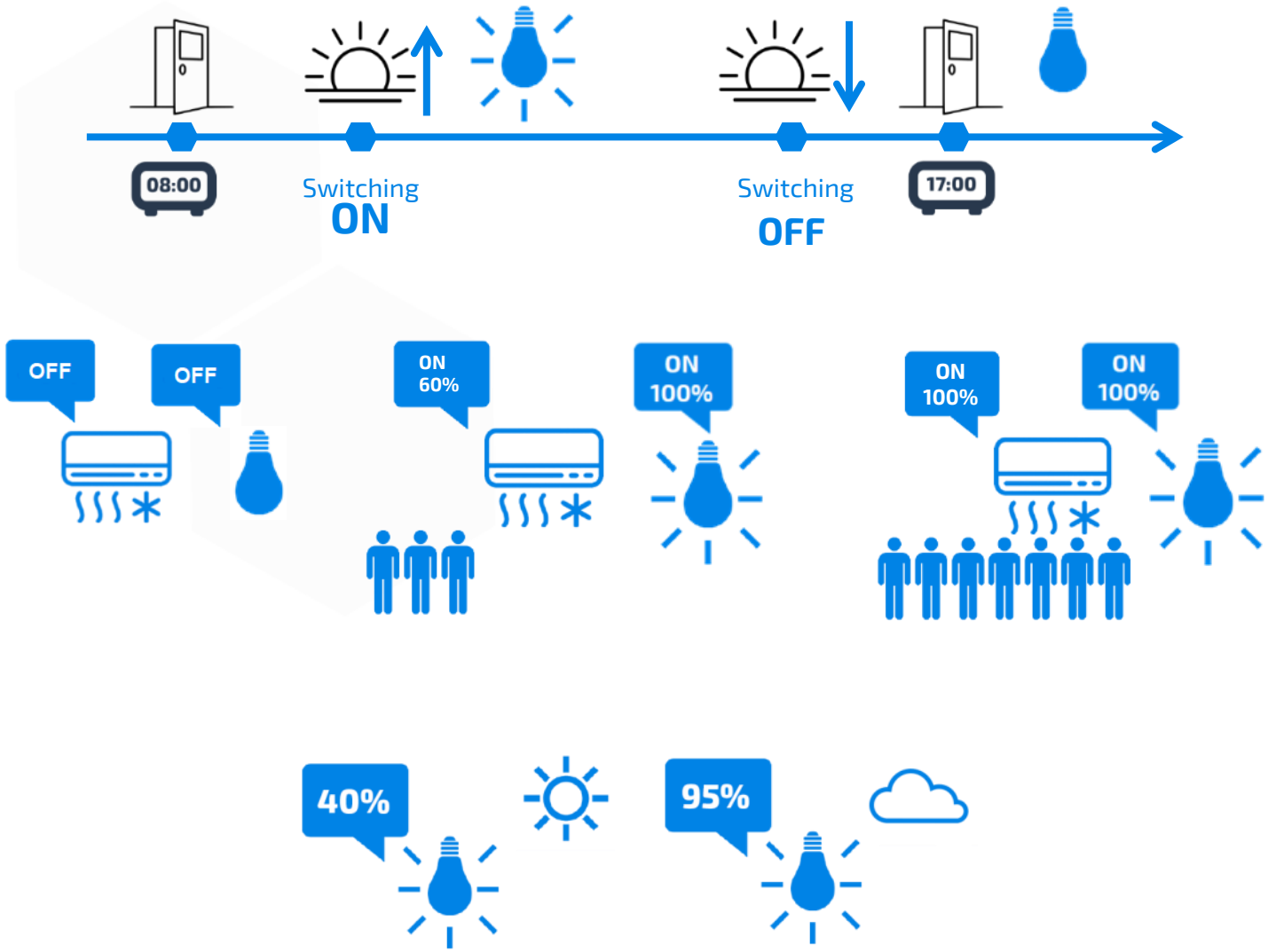
Automatic Lighting control



- Scheduling
- Occupancy
- Ambient Light Detection
- Human Centric

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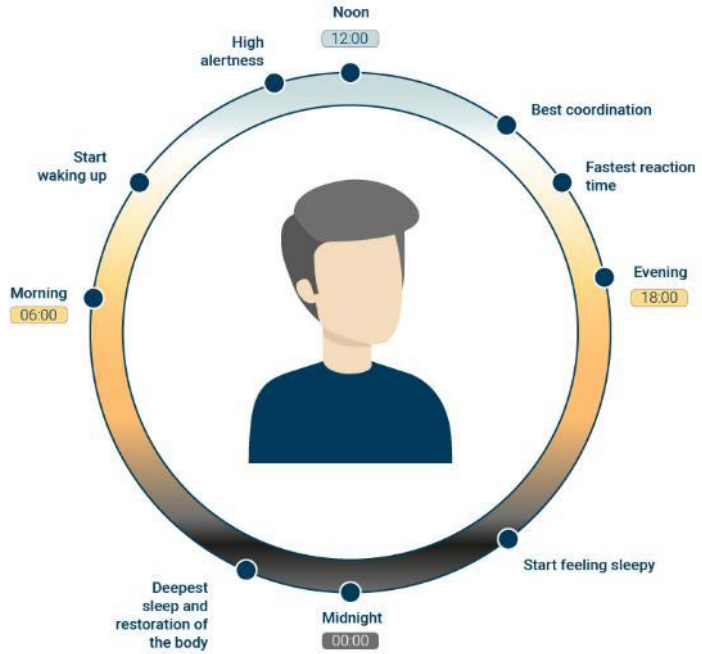
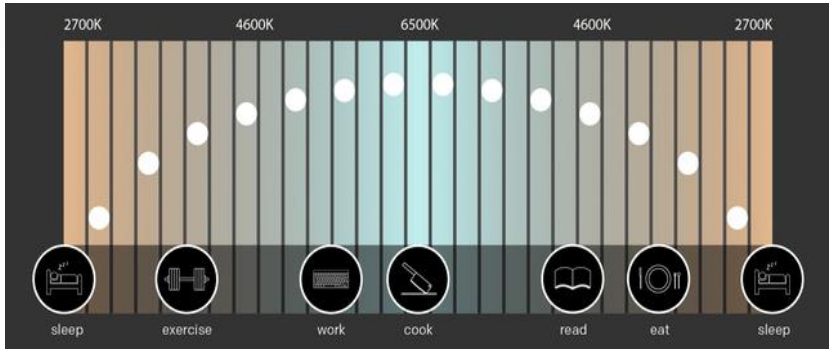
Health and productivity

Human Centric Lighting





The office light color tone changes according to actual time of a day.

Researches show the productivity is increased if the circadian rhythm kept healthy.

Sycra Blue-shift technology (Sycra PSC lights), cut the unhealthy deep blue lights from spectrum.

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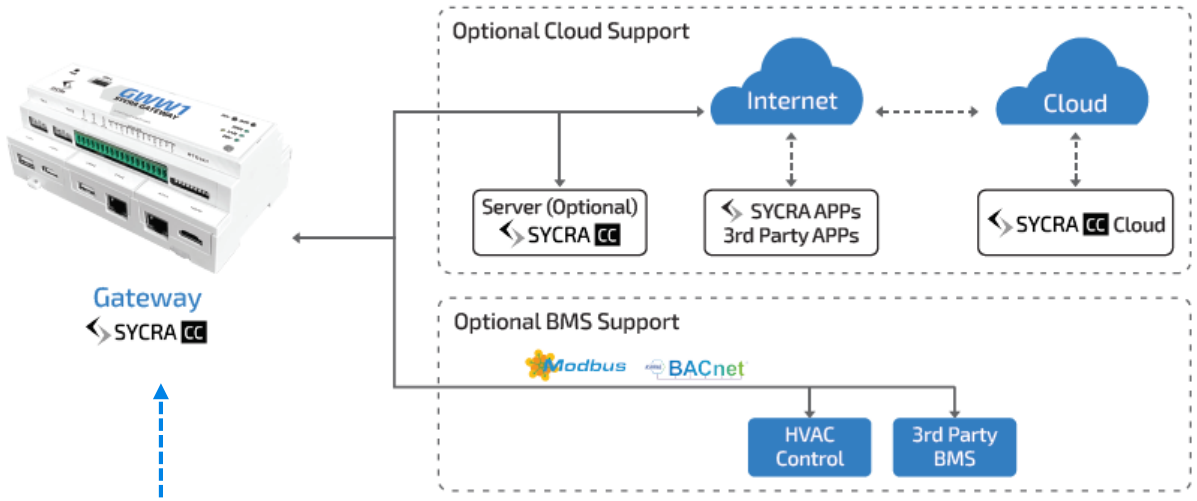
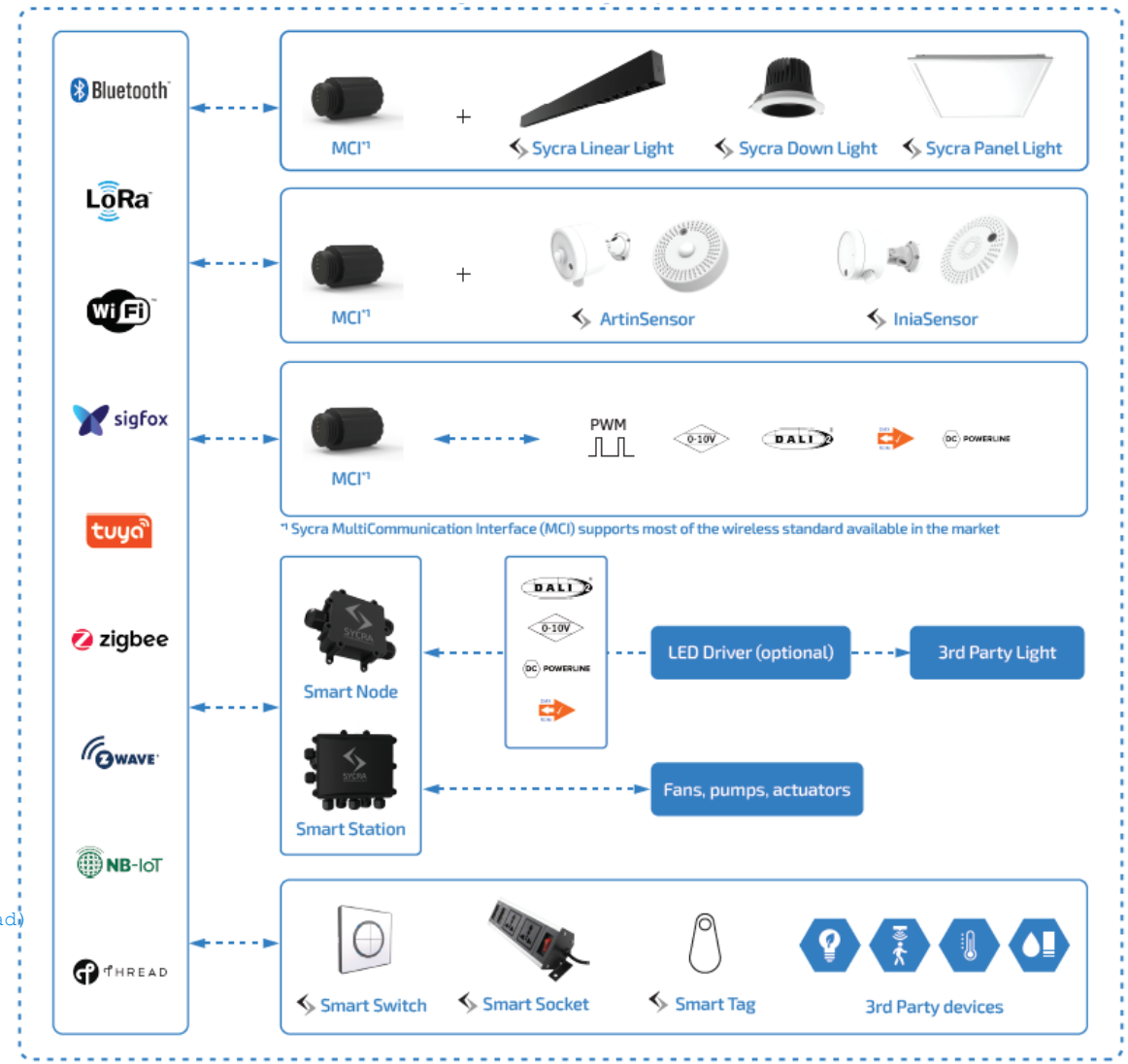
Sycra IoT Platform

Architecture

The Sycra Smart System manages both Smart Lighting and Smart Devices





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Unique Technologies

Innovative features

SYCRA CC

- Open for global standards - BACnet, Modbus
- Modular & expandable – single or multi-discipline, scalable in size
- Efficient – strong workflow concept, remote access
- User-friendly – easy to use and operate

PSC
PRECISION SPECTRUM CONTROL

- ECO Friendly – Extended Lifetime
- Dynamic Control – Ultra High CRI (up to 98), and Ultra Accurate Colors
- Consistent Quality – Brightness & CCT color forever new
- Healthy – Human Centric Lighting

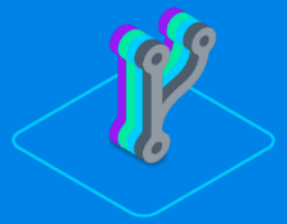
Applications

- ✓ Energy Management fit for Building Management System (BMS) integration
- ✓ Lighting, Heating, Ventilation, and Air-Conditioning (HVAC) systems
- ✓ Water, gas Leakage Detection System
- ✓ Detect Temperatures & Humidity, Motions, Thermal, Indoor Air Quality(CO, CO2, TVOC, NO2, PM2.5, H2S, NH3…

SYCRA CC | Features and benefits

Dashboards

Easily configure dashboards for advanced facility management and implementation of single-pane-of-glass concepts

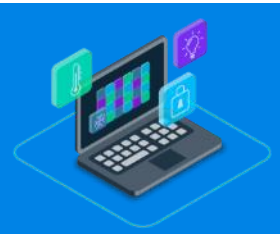


State-of-the-art operation, monitoring and control

Applications for alarming, scheduling, trending, 2D/3D graphics, reporting and advanced controls engine

Manage one or many disciplines

Suitable for managing one or multiple different disciplines, including HVAC, lighting, shading, energy and power management



Engineering workflow

Tagging based workflow, supported by wizards and templating to reduce engineering time by 50% compared to other buildings management systems in the market

Powerful integration

Standard open protocols such as BACnet, Modbus, Haystack, KNX, OPC UA with many advanced options (SQL, XML, REST, and MQTT) and ability to expand to proprietary protocols

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1. **Renewables**
   Integrate renewable energy sources and loads for demand management applications

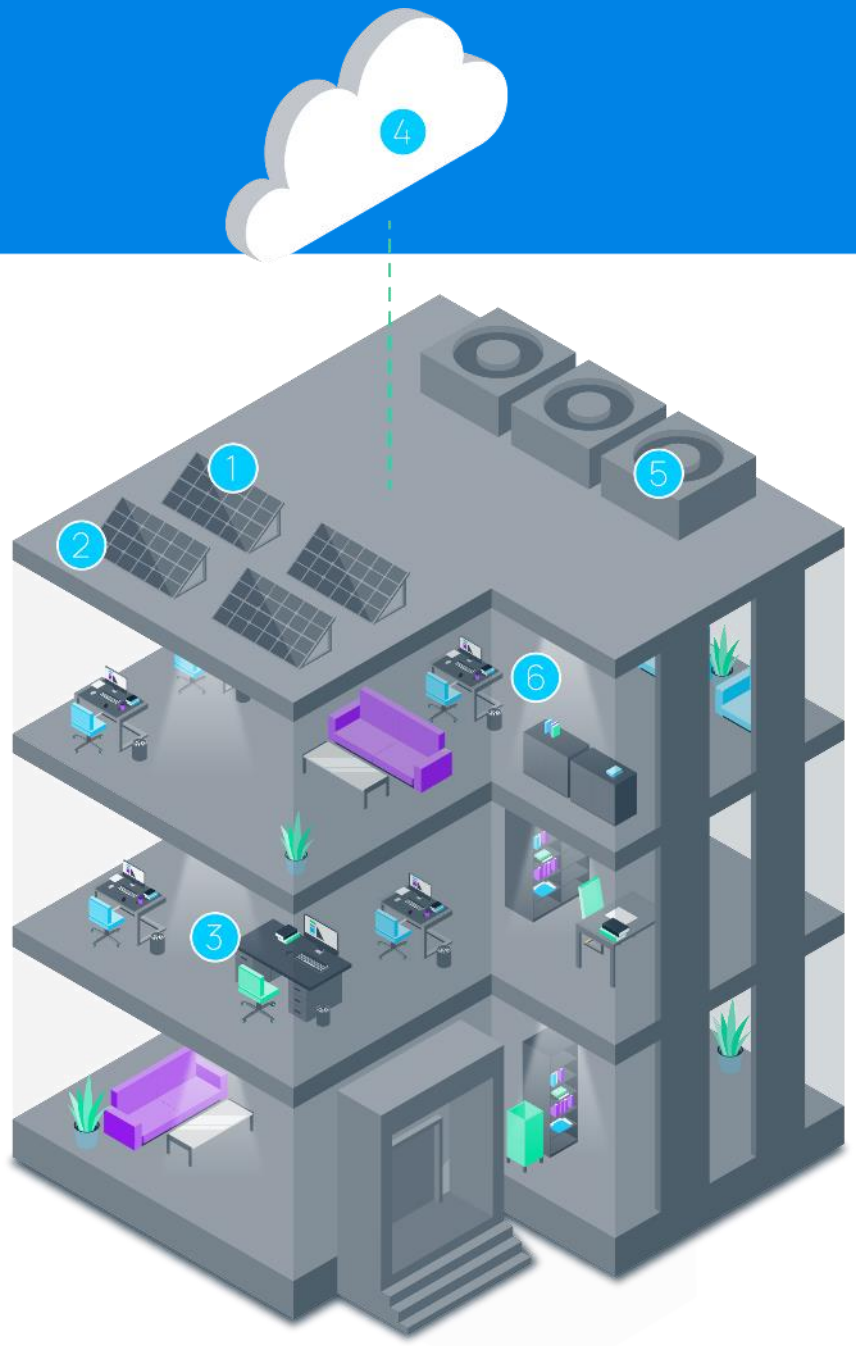
2. **Integrate multiple systems**
   Support for all the open protocols commonly used in buildings including BACnet, Modbus, KNX & MQTT

3. **Energy & power management**
   Manage power and energy performance with customizable dashboards and reports

4. **Remote management**
   Securely access building data with Edge2Cloud technology

5. **HVAC**
   Connect, manage, control and visualize a range of HVAC solutions with built-in template and configuration

6. **Lighting & shading control**
   Easy integration of lighting and shading applications for simple operation such as scheduling and zone settings



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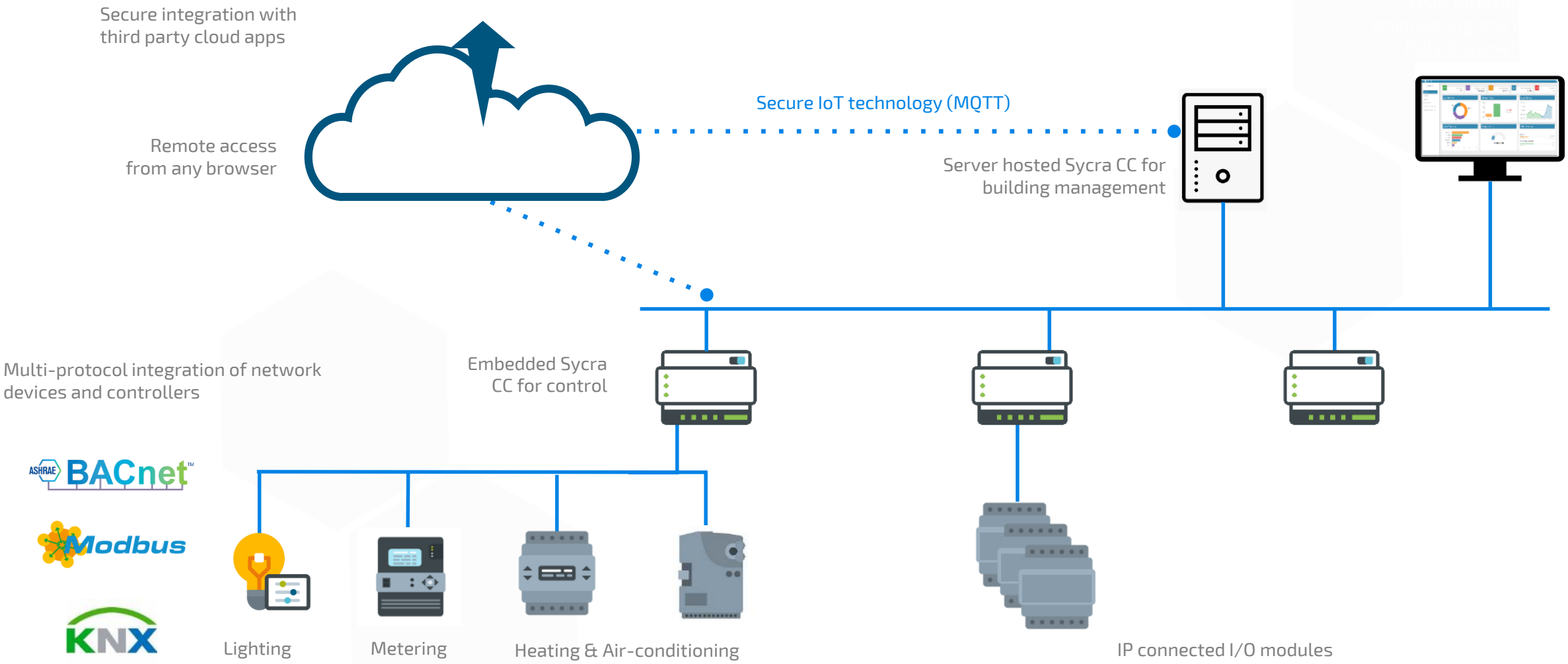
SYCRA CC | Architecture



SYCRA CC | More Benefits

- **Safe environment**

Turn your building into a Smart one and have it fully or partially automated.

- **Optimized comfort**

Automatically detect and optimize the performance of the HVAC and the lighting system, improve the environmental comfort of the building.

- **Control over unwanted events**

Make system changes from anywhere with administrator access

- **Comprehensive monitoring**

Real-time monitoring of changes in environmental conditions through IoT technology, saving in operation, labor costs and energy.

- **Easy maintenance**

Eliminate maintenance costs, improve energy efficiency, modify operating efficiency. Significant energy savings-identified the main energy-saving opportunities, such as HVAC, and lighting.

- **Continuous optimization**

Encourage people to improve building performance through the IoT and data. Energy optimization strategies in this field will have a significant impact on overall energy conservation.

With the implementation of this solution, opportunities of significant improvement of efficiency and effectiveness of equipment management are created and applied..

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PSC

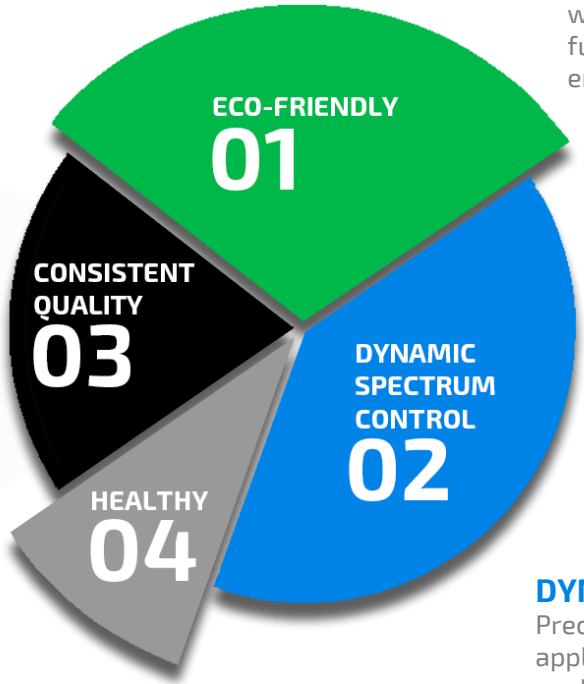
PRECISION SPECTRUM CONTROL

ECO FRIENDLY

With the lamp's life extended beyond anything available in the market, along with an eco-responsible design and future-proof IoT Integration, environmental waste are minimized.

CONSISTENT LIGHT QUALITY

The brightness, color points, CRI are kept the same in the entire lifespan.



DYNAMIC LIGHT SPECTRUM CONTROL

Precise control on light spectrum for different applications, PSC lamp delivers highest color quality optimized for all spectrum level and human centric lighting.

HEALTHIER LIGHT

Offers the highest lighting quality while reducing blue peaks and flickers. Human Centric Lighting for optimized productivity in office space.

Sycra PSC is a patented technology that allows an unmatched spectrum control on lighting, delivering an energy saving, ultra high light quality while extending its life`s expectancy.

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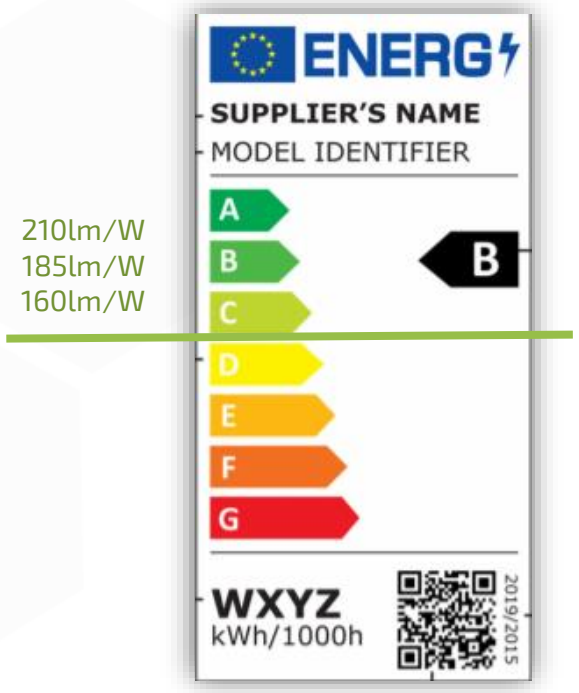
Eco Design



ENERGY STAR

PSC light meets energy requirements

- EU2019/2015
- Energy Star

The extended lamp lifetime and lifetime prediction helps reducing waste.

PSC light adopts daylight harvesting to further optimize savings.

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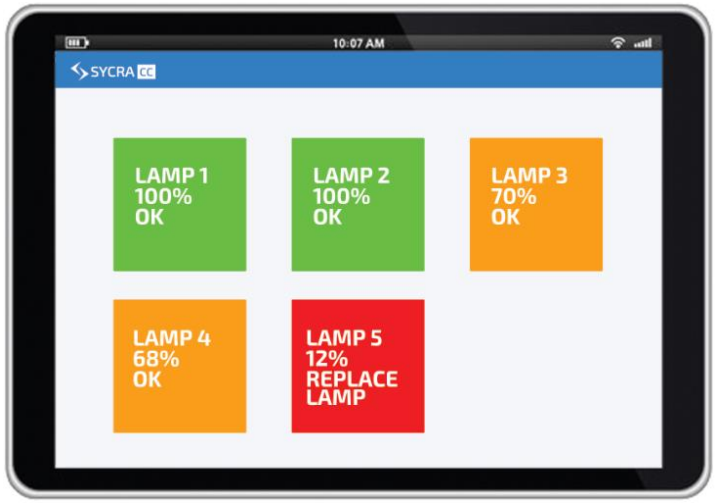
Lifetime prediction



For predictive maintenance, the customer is able to plan the maintenance and replacement when the lamp is closing in to its natural end of life-time.

The lamp life is calculated by PSC ageing index prediction algorithm.

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PSC | Dynamic Spectrum

PRECISION SPECTRUM CONTROL

Ultra High CRI Mode

CRI reaching up to 98 to be able to reproduce fully accurately all levels of colors.

Vivid Mode

Optimized spectrum for meat, fish, pastries, vegetables, clothing retails.

Human centric Lighting

Optimizing office productivity and promoting health through healthy circadian rhythm and blue light suppression

Plant Maintenance

Optimal spectrum for indoor plant growth for a green life promotion

Different spectrums

Precise Color Point Control provides accurate control on all coordinates (RGB, RGBA, RGBAW…) insuring to hit the perfect light while maximizing savings

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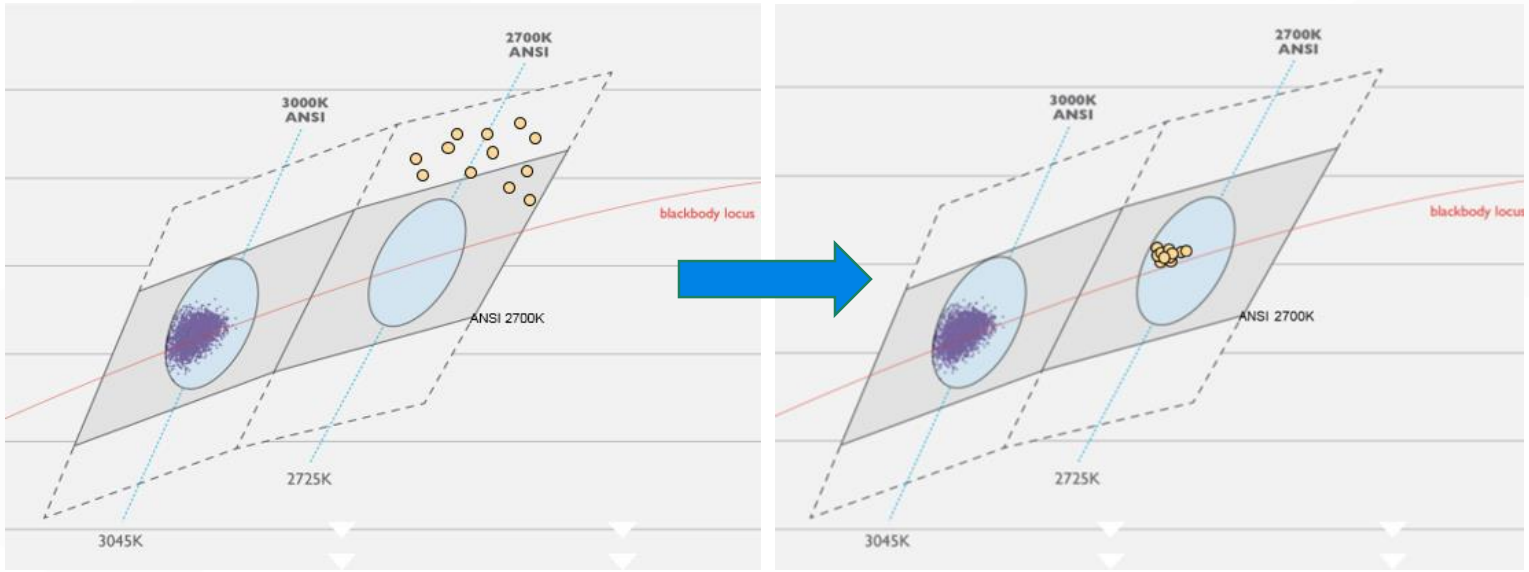
Dynamic Spectrum



Under normal condition after Tj increasing, color point will be shifted

PSC can control the color point within blackbody locus

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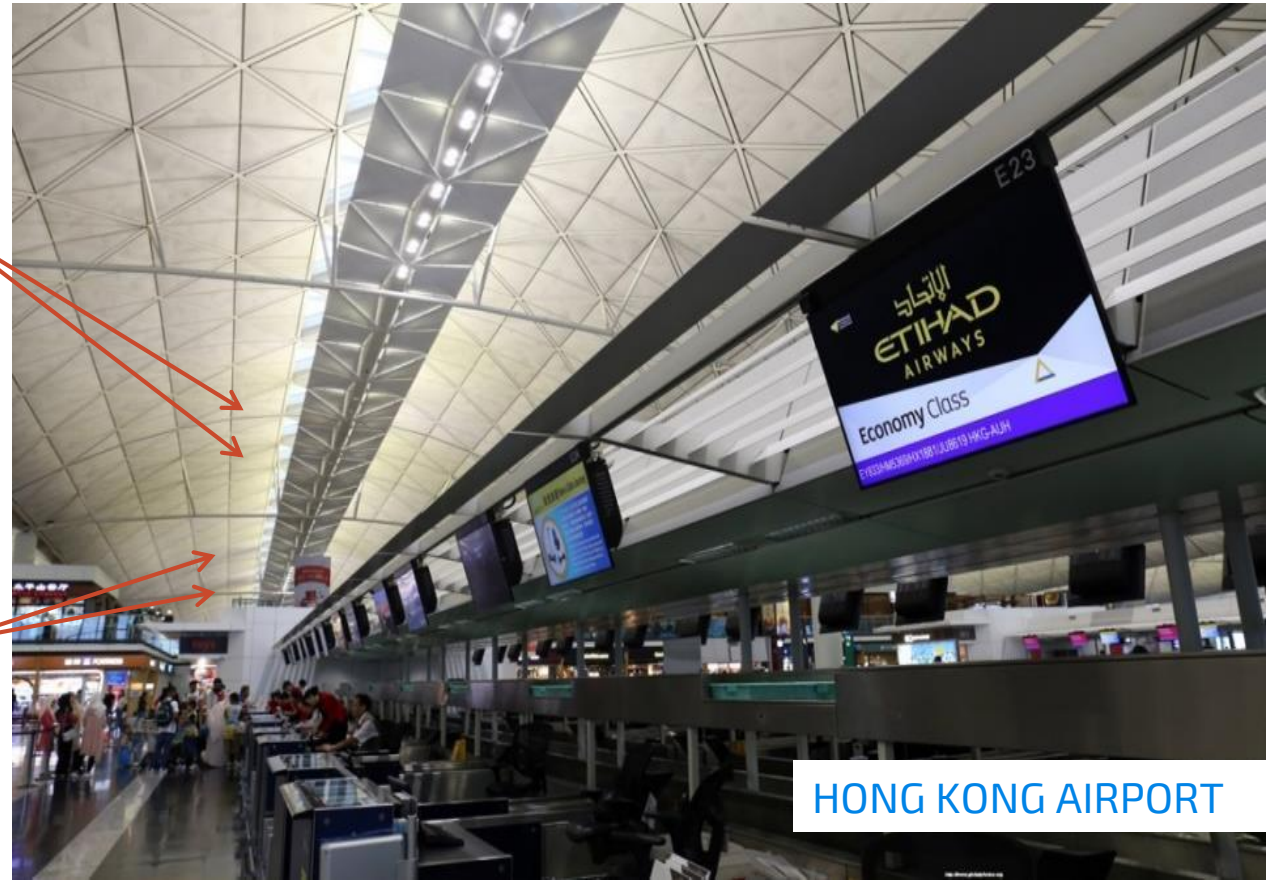
PSC | Dynamic Spectrum

PRECISION SPECTRUM CONTROL

Yellow

Dimmer



HONG KONG AIRPORT

PSC algorithm maintains consistent lamp color spectrum and brightness over time.

PSC keeps colour accuracy <2 SDCM

PSC keeps brightness +/-5% for >50,000 hrs

PSC algorithm predicts the product end of life

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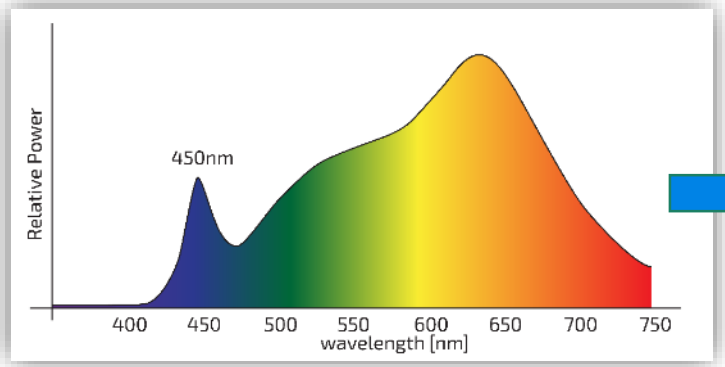
PSC | Blue Light Reduction

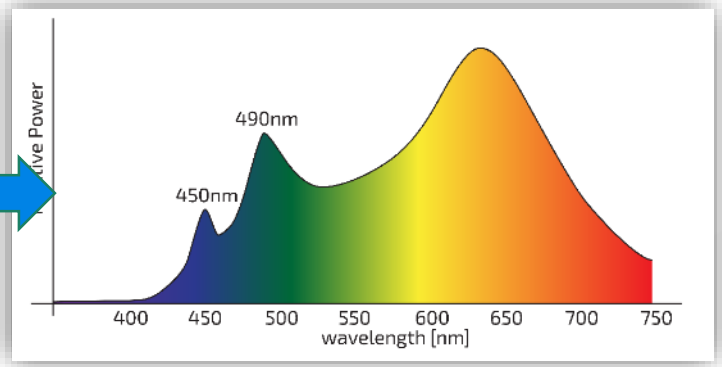
Deep Blue light can penetrate and damage light-sensitive cells in the retina.

With the PSC technology, the spectrum of the light can be controlled while maintaining the same light quality as traditional light.

The deep blue peak is shifted to a healthier blue wavelength of 490nm which is not effecting the light color.



Traditional Light has a high blue peak at 450nm.



PSC Light shift the blue peak to 490nm, and hence reduces the blue peak.

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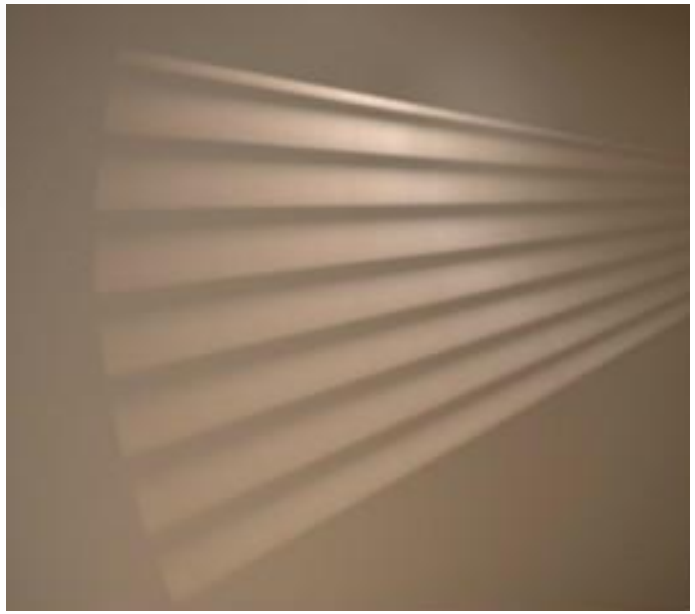
Flicker Free



Even not consciously notified, Flickers can cause various symptoms such as headaches in migraine sufferers and seizures in epileptics. PSC lights is driven by constant current and hence have no unhealthy flicker.

Flickers are not noticeable even in high speed video shooting

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More Benefits

- Integrated with Sycra Smart system, control and manage PSC lights via user friendly interface.
- The real-time management can access the status of each lamp instantly.
- Maintenance team can use web interface and mobile APP to check each PSC lamp status.
- The system generates warning alert and reports to the management.
- Will support other 3rd party BMS platform, e.g., Siemens, Honeywell, Johnson Control, Schneider,…
- Lamp firmware upgradable over the air for future enhancement.

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THANK YOU!

Presenter:

Tomas Antonio Alarcon Rivera | Chief Technology Officer

E-mail: alarcon@sycratech.com

Sycra Technologies Limited

Unit 725, 7/F, Building 19W, No. 19 Science Park West Avenue, Hong Kong

www.sycratech.com

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