

**PHILIPS**

dynalite 

Networked Controls

Office solutions

# Intelligent office solutions

Network control systems for the complete office solution

# Smart office solutions

for energy savings, occupant comfort  
and aesthetic appeal



One of the biggest challenges facing commercial building owners is reducing the day-to-day operating costs of a building while maintaining occupant comfort and productivity.

Intelligent lighting control systems allow building owners to improve light quality, enhance efficiency and productivity, and optimize energy use.

Intelligent lighting controls from Philips Dynalite deliver significant bottom-line savings in energy costs as well as ensuring optimum comfort for occupants. The system lets individuals directly control the lighting of their work environment to maximize their comfort, while providing background default levels to maximize energy efficiency. Dynalite controls can switch lights off when no one is around, automatically adjust lighting levels based on the amount of natural daylight available in the space, and switch off or dim lights based on the daily office cycle.

Moreover, the system allows users to easily plan and execute future layout and occupancy changes, without the need for costly rewiring.

Discover how Philips can design and install a system that is sophisticated yet economical, flexible, and simple to use in your office or commercial building.

**To read about our global projects, see pages 14 – 19**

# Key benefits of office controls

## Energy Savings

### The right light at the right time and place

| Benefits                   | Features                             |
|----------------------------|--------------------------------------|
| Use sunlight               | Daylight regulation                  |
| Lights on only when needed | Occupant control<br>Smart scheduling |
| Right light level          | Task tuning<br>Daylight regulation   |
| Flexible energy use        | Load shedding                        |

## Flexibility

### Be ready for now and the future

| Benefits                    | Features   |
|-----------------------------|--|
| Reduced cost of flexibility | Manage your layout changes via software                |
| Monitor system health       | Monitor (almost) failures                              |
| One user interface          | Control of all ambient elements from one interface     |
| Measure and control         | Full insight in operation, energy usage and management |

## Comfort

### Create the perfect environment for tasks and scenes

| Benefits                     | Features   |
|------------------------------|--|
| Optimal light for task/scene | Personal control<br>Dynamic (color) control                                  |
| User in control              | Personal control   |
| Comfort and safety           | Corridor linking<br>Open plan background lighting<br>Integration with blinds |
| Measure and control          | Full insight in operation, energy usage and management                       |

### Kitchen and utility areas

A Dyalite system can effectively save energy in back-of-house areas by turning off lighting in areas that are not in use. To optimize user comfort, different lighting levels are implemented for kitchen and utility areas reflecting changes in occupancy and usage.

### Amenities

The Dyalite network timeclock adjusts the state of the system according to the time of day, sunrise/sunset times, date or season. These general adjustments are automatically overridden if an area is unoccupied in order to avoid unnecessary energy expenditure. Sensors ensure that lighting is only provided when and where required.

### Single office

Presence detection enables lights to be switched off or dimmed when an area has been unoccupied for a certain length of time. In areas where there are external windows, the office can incorporate Dyalite's daylight harvesting strategies to balance artificial lighting levels with natural incoming light – saving energy and optimizing the workplace ambience.

### Behind the scenes

Centralized monitoring and control features offer additional benefits to building security through remote override capabilities. The system monitors all lighting circuits, providing real time data to the facility manager on system health and faults.

### Lobbies and reception

Lighting plays a pivotal role in creating the initial impression for any visitor entering a reception area. The Dyalite system can adjust lighting throughout the day to ensure a visitor's first impression is always positive. By including a timeclock and light level sensors, the control system reduces energy consumption while still maintaining the overall professional lighting effect.

### Boardrooms and meeting facilities

Blinds and audio-visual (AV) systems can be integrated for seamless operation at the press of a single button – for example when a 'Presentation' scene is selected. The system also supports 'room join', which allows multiple rooms separated by moveable partitions to be automatically linked and controlled from one central point. The lighting control system can coordinate multiple lighting groups to work together ensuring seamless changes between scenes in harmony with how the space is being used.

### Corridors

Corridor lighting schedules can provide a 'corridor-hold' function outside normal working hours to maintain an illuminated pathway to the exit for all people working late, to assure their safety, comfort and convenience. Once the last occupant has left the building, occupancy sensors drive the system to 'unoccupied mode' without users needing to remember to turn lights off.

### Open office

Multifunction sensors automatically adjust lighting near the window independently from the lighting near the core of the building to balance incoming daylight, as well as dimming or turning off lights in unoccupied areas. After-hours, sensors detect where people are working within a building and provide lighting for that area, as well as illuminating a pathway to the exit.

# The clever control system at work

### Façades

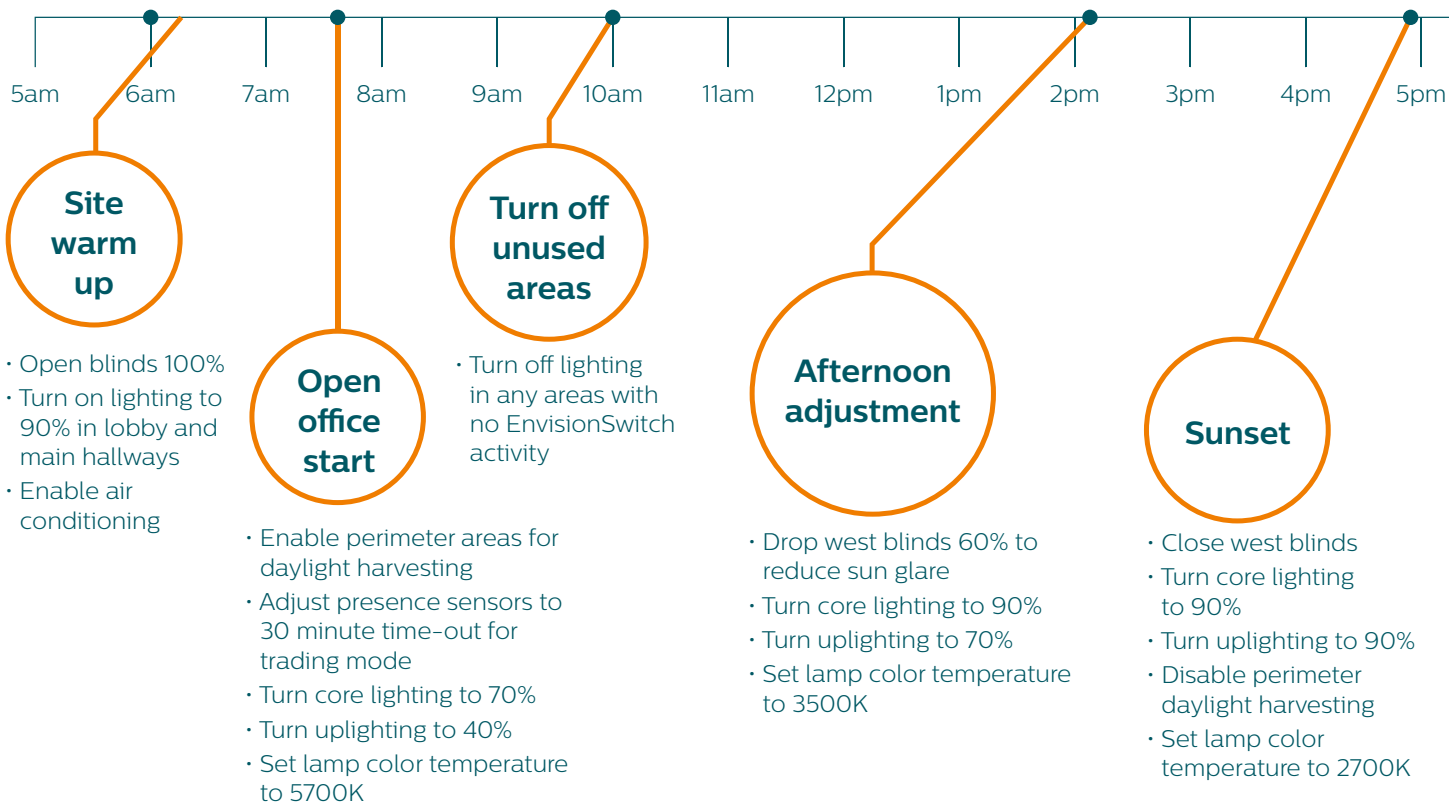
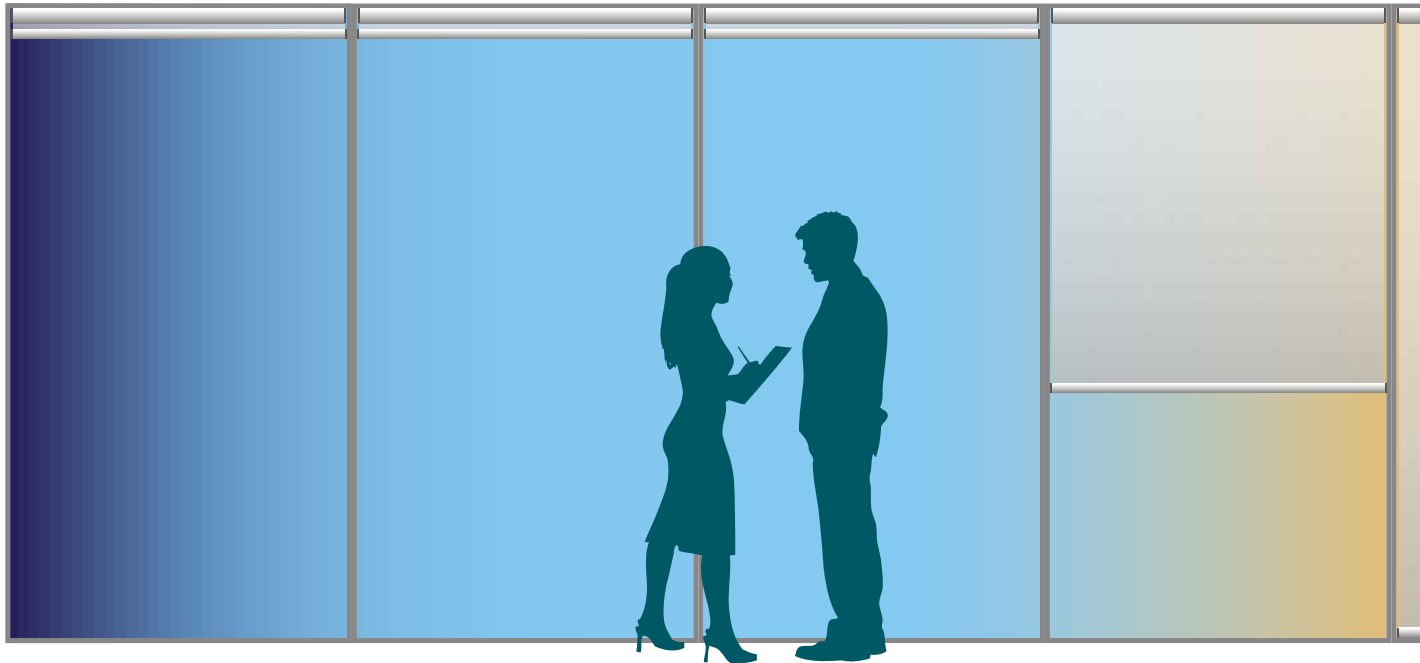
The Dyalite control system can easily create dynamic and memorable lighting effects, complementing a building's façade while creating a positive and lasting impression of the company brand.



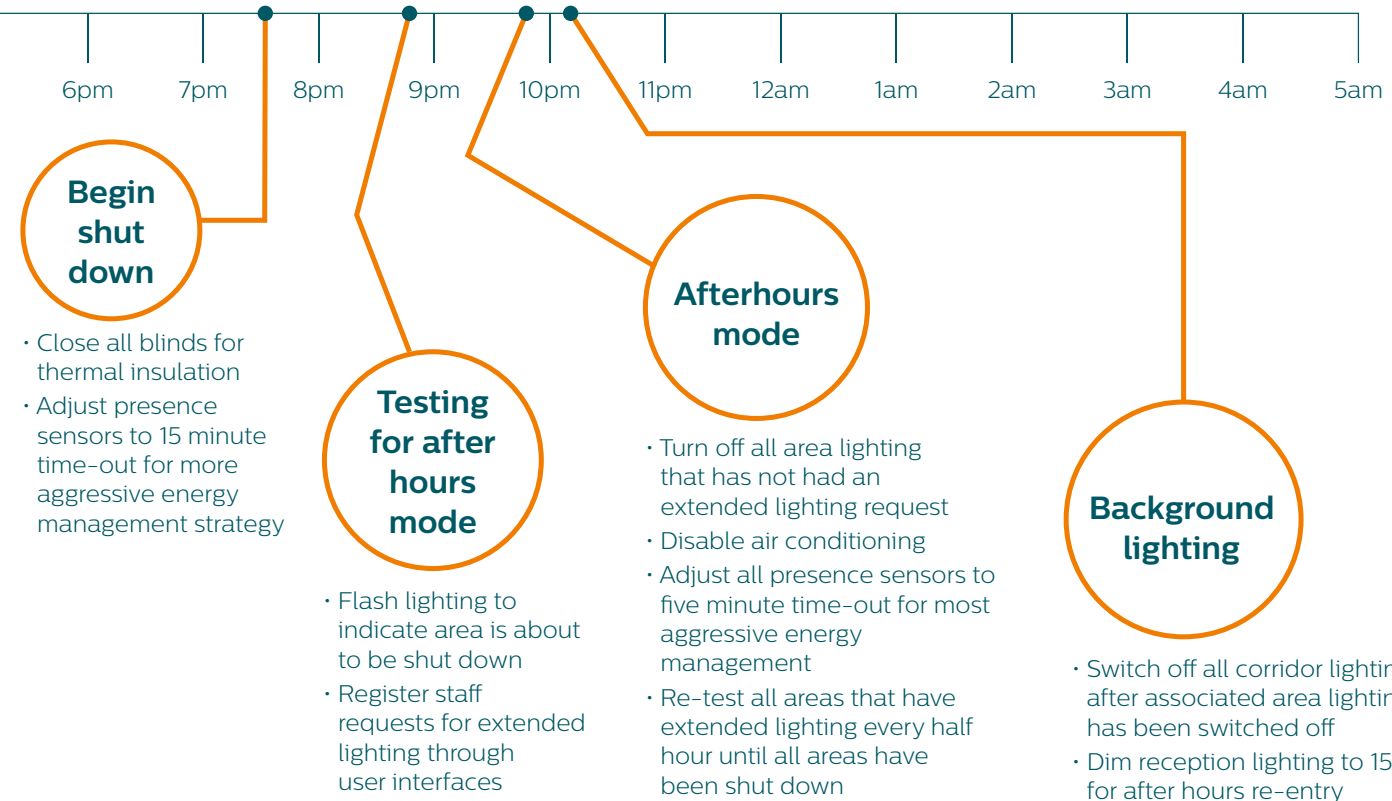
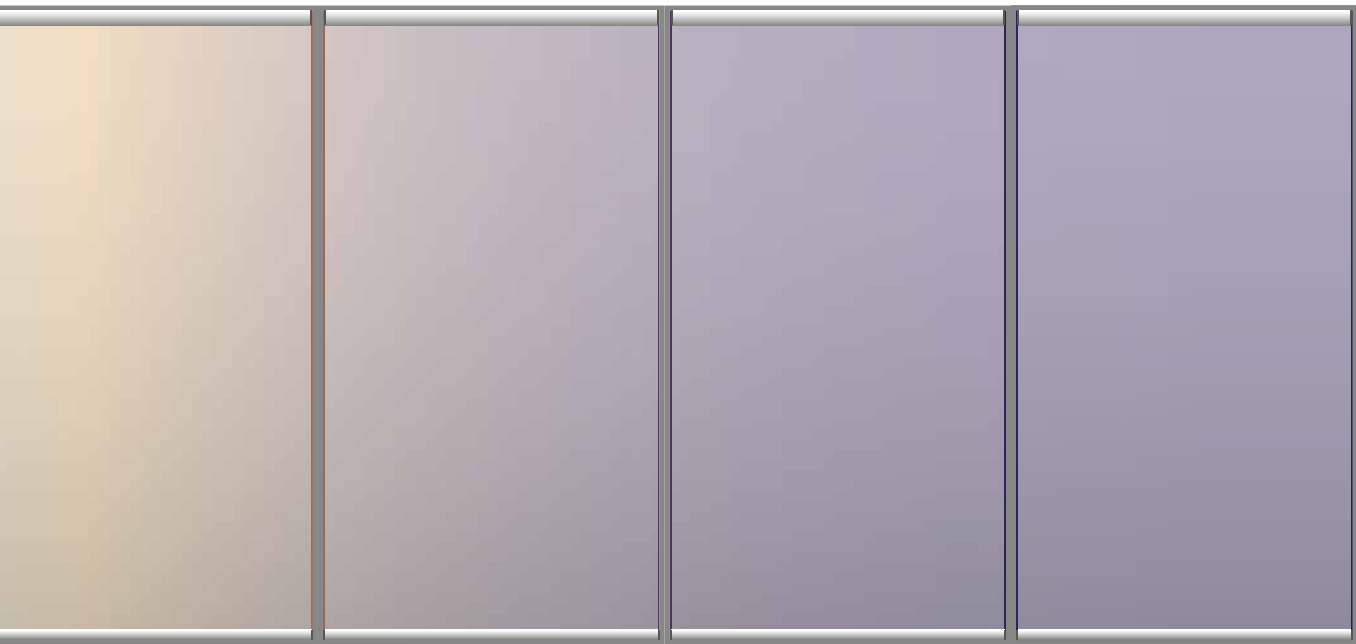
**Car park**

It is important that occupants in a car park feel safe and secure. The Dynalite system optimizes lighting for enhanced safety, while mitigating energy costs with automated dimming/switching.

# The daily cycle of office lighting



“ An automated event-based strategy **maximizes energy efficiency and occupant comfort** throughout the daily cycle.”





# Creating **intelligent** offices

## **Optimizing energy savings**

A Dyalite lighting control system monitors and controls lighting within a commercial office environment to remove unnecessary energy use. Energy costs are lowered through the use of standard controls – such as dimming and occupancy sensors – and through the implementation of daylight harvesting strategies. Rather than depend on staff to turn off the lighting, the intuitive Dyalite system does it automatically. The system also allows facility managers and building owners to receive status reports enabling adjustment of lighting schedules where necessary and to facilitate the monitoring of energy usage/savings. By minimizing energy use, credit points can be earned with energy-rating systems such as Green Star, BREEAM and LEED.

## **A comfortable work environment**

Savings in energy bills aside, the more effective the lighting control in an office, the more comfortable it is for the occupants. The Dyalite system allows lighting to be customized to each specific work environment and gives occupants personal control of their own lighting. In the background the system makes continuous automatic adjustments to the lighting, thereby providing occupants

with consistent light. Optimizing user comfort in these ways can enhance employee health and happiness, resulting in improvements to workplace productivity and efficiency.

## **Increased flexible control and fully scalable**

Simple to install and commission, a key component of the Philips Dyalite office portfolio is the company's Digital Addressable Lighting Interface (DALI) solution. This can seamlessly operate all DALI luminaires as a single system, offering accurate dimming to all connected luminaires and providing status feedback to the control system. Dyalite's DALI MultiMaster solution further simplifies installation by removing the need for separate control wiring as lighting, sensors and user interfaces are all connected to the same control wires.

A Dyalite DALI solution significantly reduces the inconvenience and costs of maintenance, offering ultimate flexibility through software management and control. Furthermore, as each luminaire is individually addressable, it is possible to reconfigure lighting using a graphical user interface, without the costly and disruptive need to physically rewire areas to meet changing requirements.





# Creating **multi-system** solutions

## Occupancy detection

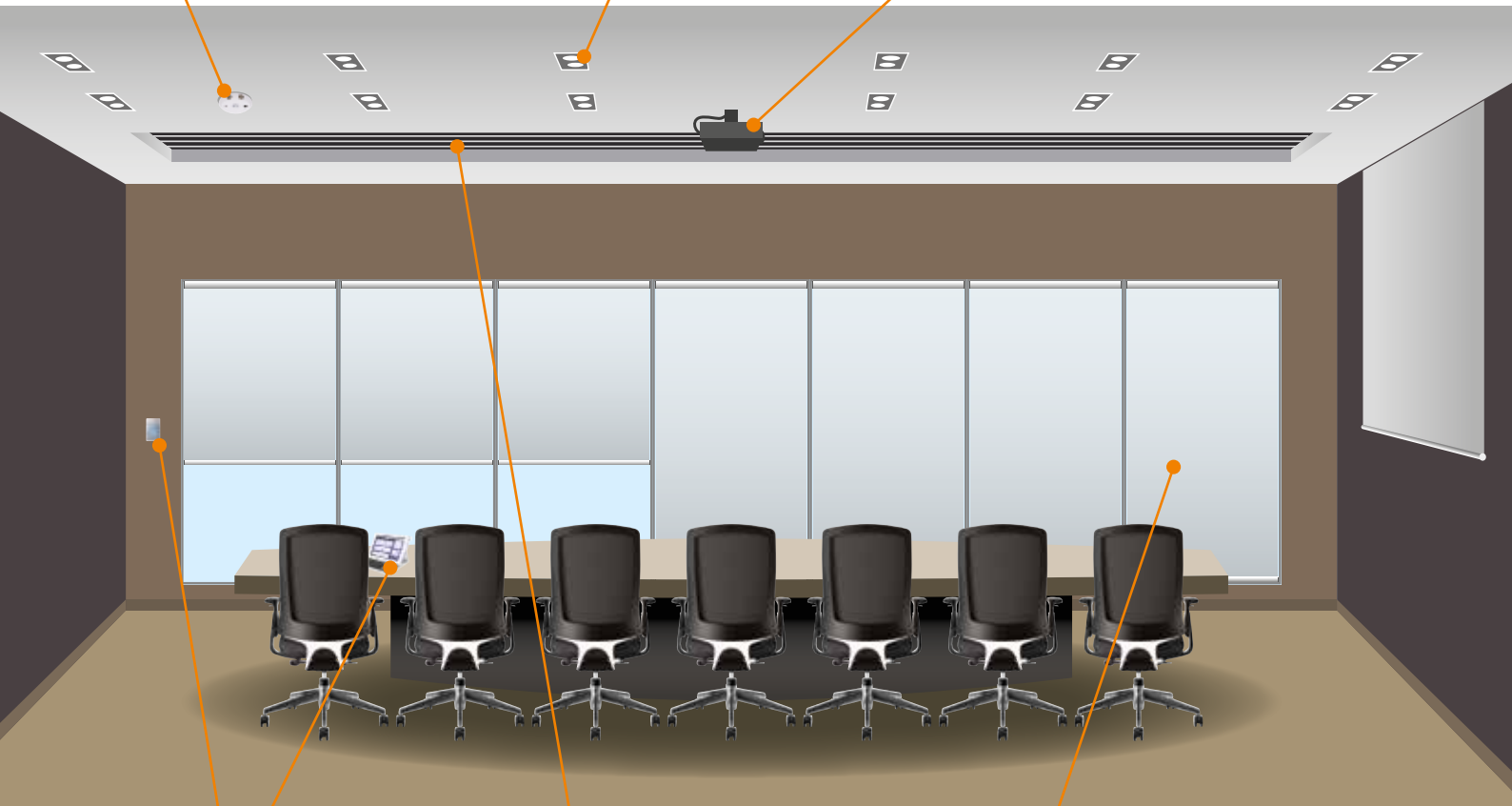
A range of passive infrared and ultrasonic sensors ensure that user occupancy can be monitored for all areas, with lighting programmed to switch off or dim when an area has been unoccupied for a pre-determined length of time. After hours, sensors ensure that occupied areas – along with an egress pathway – continue to be illuminated when required by any remaining occupants.

## Lighting / scene setting

Lighting levels can be optimized to suit individual tasks and to reflect different possible uses of a space. Moreover, sensor control facilitates automated occupancy-based scenes as well as different daylight harvesting strategies.

## AV

AV systems can also be integrated with lighting and blinds to allow single-button room set-up for presentations with a dedicated 'Presentation' scene. All services within the meeting/boardroom can be recalled from a single button press when entering the room and automatically shut down at the end of a meeting, when no occupants are detected after a set period of time.



## User interfaces

While much of the Dynalite lighting control system is automated, a range of stylish user interfaces can be added to a system to provide local control of lighting, AV, blinds, HVAC and other integrated systems.

## HVAC

Integration with the HVAC system ensures that heating/cooling is only provided for occupied areas, thereby saving unnecessary energy expenditure. Manual overrides ensure unoccupied rooms can be set up in advance to ensure the perfect environment is created when people arrive.

## Blinds

Blinds can be integrated with lighting and heating, ventilation and air conditioning (HVAC) systems to support daylight harvesting strategies and manage the thermal efficiency of the building.

# Our comprehensive office controls **product range**



AntumbraDisplay panels

## User Interfaces

### Antumbra

The Antumbra user interface detects an approaching user and 'wakes-up' to provide a wall-wash lighting effect. An internal light sensor measures ambient light and adjusts this light-wash intensity accordingly. Antumbra also features a built-in temperature sensor that can automatically adjust air conditioning with an integrated HVAC system.

Antumbra user interface options include a selection of button configurations, multiple language/icon labeling, plus a selection of rim/fascia designs.

### Multifunction Sensors

The multifunction sensor combines passive infrared (PIR) motion detection, ambient light level detection and infrared remote-control reception. The PIR capability is used to adjust lighting based on occupants' presence or the absence of motion. Light level detection reads ambient lux levels and regulates lighting accordingly to support daylight harvesting strategies. The infrared receive function allows users to manually adjust light levels using a hand-held remote control.

## Controllers

### DALI Controllers

The Dyalite Digital Addressable Lighting Interface (DALI) controller range delivers cost-effective control of DALI standard addressable luminaires. The DALI MultiMaster solution is compatible with a range of DALI fittings and devices: DALI HF fluorescent

ballasts, DALI electronic low voltage transformers, DALI LED fixtures, DALI emergency lighting fixtures, and DALI user interface devices.

Compact DIN-rail mountable controllers with integral DALI bus power supplies reduce switchboard-wiring complexity and removes the need for a separate external power supply. Inbuilt DALI diagnostic functionality features lamp/driver failure reporting, driver run time tracking, emergency test reporting and device online/offline status information.

### Captivation Load Controllers

(Available in UL 120/277V Markets only)

The Philips Dyalite Captivation Digital Load Controllers offer a simple yet comprehensive solution for lighting control on a single circuit basis delivering a highly flexible layout in a facility without the need for centralized dimming or switching. Commonly placed above the ceiling at or near a circuit of fixtures, the load controllers simply wire to the DyNet control line and a mains branch circuit, enabling DyNet or DMX512A network communication to the lighting load.

These highly cost effective, fanless and easy-to-install load controllers come in two options:

- RD – Relay Dimmer allowing control of any 0-10V circuit including switching of the circuit off at 0 to maximize energy savings and 20A Switching control of a 120V or 277V circuit. The RD can also be used as a simple relay circuit.
- PD – Phase Dimmer allowing 600W of Phase dimming at 120V or 277V in forward or reverse phase –selectable in the field.

Additionally the Captivation controllers offer the unique feature of being able to power and bridge external low voltage components into a Dynalite system such as user interfaces, motion sensors and analogue switches, making extremely low cost components essentially network components.

### Relay Controllers

A range of cost effective relay controllers are designed to offer simple and effective on/off switching control of lighting groups. Used in conjunction with scheduled events and sensors, Dynalite relay controllers offer significant energy saving potential, as the most energy-efficient light is simply one that is off when not needed.

### Lighting Dimmers

Creating a welcoming atmosphere within the work space promotes a more productive environment. This is often achieved by using a mixture of different lighting sources that requires a comprehensive lighting control strategy to bring the different elements together. Philips Dynalite offers a wide range of different lighting control dimmers that can match the need of almost any lighting source.

### Ecolinx Structured Wiring Solution

For offices which do not require DALI addressable controls, Ecolinx offers tool-free connection, cutting down installation costs. A fully integrated lighting energy management system, Ecolinx offers open protocol dimming options and on/off lighting control for commercial environments.

## Integration

Dynalite lighting control systems also integrate with third-party building management equipment such as HVAC, security, AV devices, blinds and the building management system (BMS) itself. For example, a typical boardroom application involves integration between the lighting, AV and blinds, enabling the room to be set up for presentations at the single press of a button. This feature simplifies operations for the user and empowers facility/site managers to easily manage lighting schemes and integrated services across the entire site.

Integrating to DyNet is made easy with our gateways that translate different protocols and offer full bidirectional communication between diverse systems, such as BACnet, LON, KNX, OPC, RS232, RS485 and all dry contact interfaces.

## Envision software

### EnvisionManager

In buildings where central control and management of lighting is important, EnvisionManager provides the ideal support tool for large and small sites. EnvisionManager delivers real-time monitoring of hardware and energy performance, with an alert function to send customized notifications in the event of component failure or malfunction.

EnvisionManager enables the entire lighting system to be managed from a single location – including scheduling, reporting, DALI emergency testing, preset scenes and specific events such as Earth Hour. Occupant comfort is supported by EnvisionManager's ability to monitor occupancy and fine-tune lighting levels to meet the exact needs of each end-user for the tasks in which they are engaged. Furthermore, the EnvisionManager macro builder function allows end-users to tailor the operation of the system to their own needs.

EnvisionManager is inherently scalable, able to manage more than 65,000 areas within a building as well as cross campus monitoring for multi-building projects. EnvisionManager also supports remote access/control of the system via a web browser, creating options for control through any web-enabled device.



### EnvisionDashboard

EnvisionManager promotes energy efficiency through its energy dashboard that is displayed on monitors or Dynalite touchscreens within the building to promote Green Building measures to all occupants by demonstrating the current energy saving performance of the system.

EnvisionDashboard provides key insights and analysis into when/where lighting energy is used in a facility. It exposes information already captured by the system and presents it in a readily understandable and accessible fashion, enabling facility users to take an active involvement in the energy efficiency of lighting.

EnvisionDashboard displays information as a webpage, accessible via any device with an internet connection, both onsite and remotely. It provides a choice of timeframes over which users can view lighting energy performance. It also compares current energy consumption with past performance, displaying instant and year-to-date energy savings.

### EnvisionSwitch

Individual lighting control is made accessible through the EnvisionSwitch software. It resides in the task bar of the user's computer and provides the ability to tailor task lighting for each user and match individual preferences.

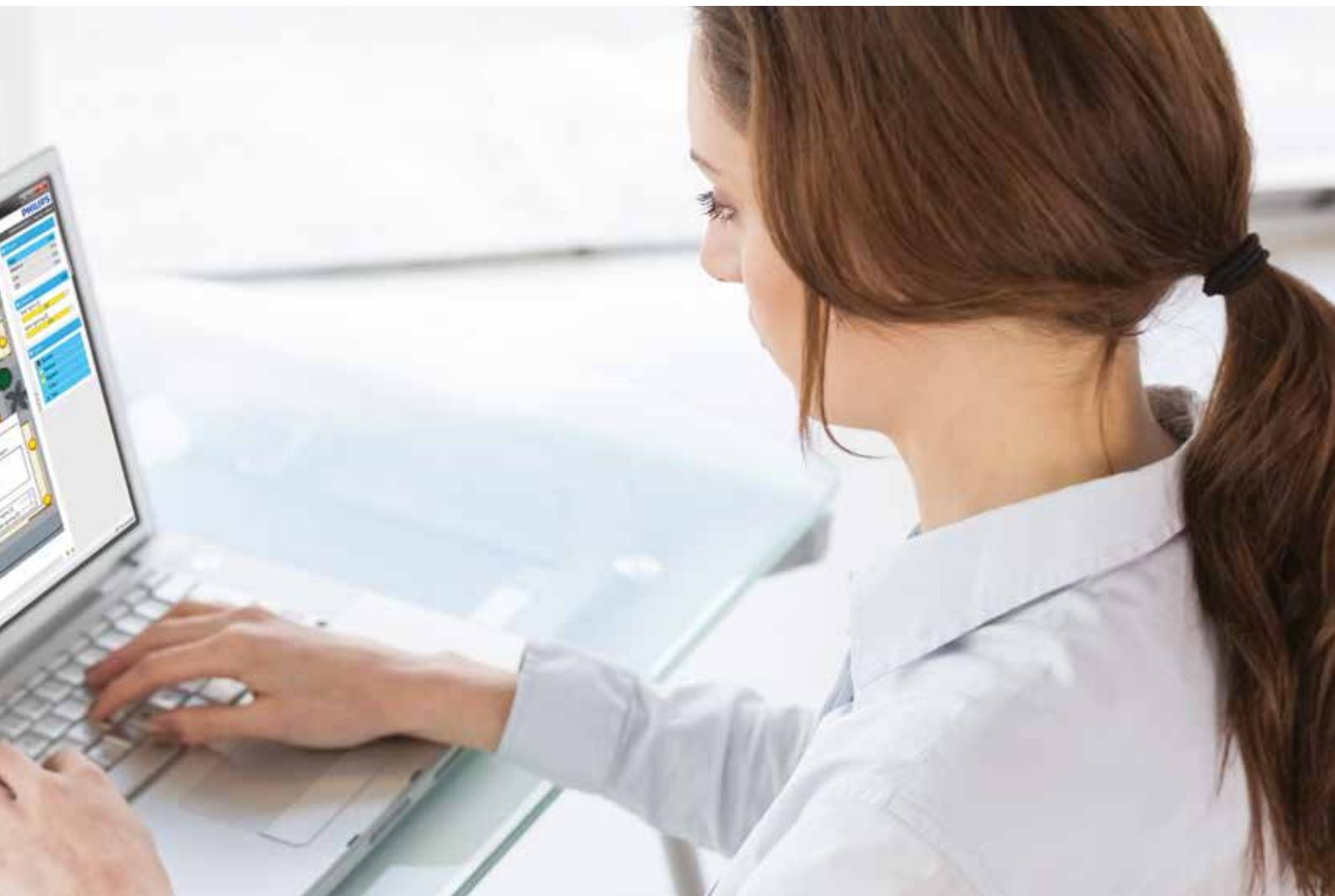
EnvisionSwitch can be set to dim the lighting when the computer screensaver activates, or turn the lighting off when the computer itself has been turned off. With task lighting connected back to the lighting control system, EnvisionSwitch ensures there is no risk of lights being left on all weekend.

### EnvisionTouch

With the EnvisionTouch mobile app the user can now control the lighting via their mobile phone. The app connects via Wi-Fi to the lighting system and lets the user adjust lighting and heating anywhere in the system to their specific needs using onscreen buttons and sliders.

## Luminaires

Philips can offer a turn-key package through our extensive line of fixture offerings throughout the world that will seamlessly work within a Dynalite control system. Additionally Dynalite easily integrates with Philips Color Kinetics fixtures allowing dynamic architectural lighting options both indoor and outdoor. **Please contact your local Philips sales representative to discuss your vision.**



# One Shelley Street (Australia)

The advanced lighting control system has enabled One Shelley Street to achieve a 6-Star Green Star rating. The architectural use of natural light is complemented by the Dynalite DALI-based lighting control and energy management system, which incorporates several strategies to optimize energy consumption.

The lighting system operates in two distinct timer-based modes – ‘trading’ and ‘after hours’. In trading mode, daylight-harvesting sensors take advantage of natural light by dimming perimeter lighting. In after-hours mode, motion sensors in amenities areas and lift lobbies switch on lighting if movement is detected.

EnvisionManager provides a visual overview of the entire lighting system, making it easy to see in real time how the system is operating on each floor and temporarily/permanently adjust scenes and levels. Importantly, employees can control the lighting in their workspace via the touchscreens installed on each floor of the building.

Not only has the system optimized energy consumption, it has also delivered a lighting power density of just over 5W per square meter. Using a combination of motion and light sensors along with timed events, the flexible lighting control system effectively delivers optimum lighting to enhance workplace productivity and energy efficiency.



Photograph by:  
Richard Drew,  
Slikpics Photography

# PetroChina (China)



Incorporating China's largest DALI lighting installation, the lighting control system at PetroChina's headquarters has redefined office-building environmental and operational performance. The Dynalite lighting control system has been configured and managed using EnvisionManager, which provides a visual overview of the entire lighting system. Operators can readily identify every light fixture, circuit and channel across the entire complex and control these components automatically or manually.

The lighting control system is programmed to operate in three distinct timer-based automated modes – 'working', 'lunch' and 'after hours'. The daylight harvesting functionality automatically modulates artificial light levels according to the level of natural light available. This not only saves

energy but also keeps lux levels within a predetermined range for occupancy comfort. In 'after hours' mode, motion sensors are activated in amenity areas and lift lobbies to initiate lighting if motion is detected.

The capacity of the Dynalite system to both schedule lighting scenes automatically and respond to changes in occupancy and daylight levels, translates to significant energy savings for PetroChina; while delivering real operational flexibility. The building's scalable control architecture allows for straightforward future expansion of the system, allowing additional third-party controllers for other applications to easily be integrated.

# Westfield Headquarters

## (Australia)

The 10-floor Westfield office building had a number of key design criteria: to minimize the use of natural resources; to provide a more productive and comfortable workspace for staff; and to target a 5-star NABERS energy rating as well as a 6-star Green Star rating. Integral to reducing the building's environmental footprint was the selection of a Dynalite DALI lighting control system. This was specified for a number of reasons: it delivers increased energy savings; it is simple to install and maintain; it provides maximum flexibility and control; and it is easy to modify in the future.

The entire system is centrally monitored through the BMS, which allows the automatic identification of failed lamps and drivers. The installation of dimming luminaires around the perimeters of the office enables artificial lighting to be increased or decreased to balance natural light levels. The continuous automatic adjustment of the lighting in response to changing ambient light levels provides a consistently comfortable light level, which enhances workplace comfort levels, productivity and efficiency. Together with other building services, the lighting control system has helped reduce energy consumption by 30 percent.







## Skanska office (Poland)

Skanska is one of the world's ten largest construction companies and aims to be a leader in quality, green construction, work safety and business ethics. The Polish office has embarked on an ambitious journey to go 'Deep Green' in its building approach, which the company trialed in a special 'Green Office' area of the Skanska Property Poland headquarters.

Philips Lighting were engaged to design a lighting solution redefining user experience, energy efficiency and total lifecycle costs, Skanska set an ambitious energy efficiency target of 10W/m<sup>2</sup>. Philips Lighting devised a solution with key elements from its LED

and Controls portfolios: comfortable DayZone general lighting; dimmable LuxSpaces and flexible TurnRounds downlights; DayWave luminaires that recreate the rhythms of natural light; and an intuitive Dynalite control system.

The result has been a resounding success. The combination of the LED luminaires and control solution has resulted in an overall energy savings of 50 per cent. It also delivers lighting that enhances creativity and productivity in the workplace.



# Manchester Airport Group

## (England)

Manchester Airport Group (MAG) has used Philips LED lighting and controls for its major refurbishment of its Olympic House head office in Manchester. PowerBalance LED modular recessed luminaires provide general lighting in open plan office areas, while LuxSpace Compact and StyliD Mini recessed LED downlights have been used for circulation areas. Philips BCW 3W SAH emergency lighting modules – complete with DALI invertors – have also been installed.

The lighting is controlled by a Dyalite system using a DALI protocol and based on an ethernet backbone.

Office areas employ daylight harvesting to maintain required lighting levels with minimum energy consumption, while presence detection ensures the lighting is only on when required in areas of variable occupancy. In addition, meeting rooms have preset scene controls, while the boardroom has a touchscreen interface for more extensive control of the lighting.

EnvisionManager head-end software provides central monitoring and control of all lighting functions. The control system has also been configured so that other areas of the building can be added at a later date.

# Jones Lang LaSalle

(Philippines)

Jones Lang LaSalle (JLL) called on the expertise of Philips Lighting to design and install a state-of-the-art LED lighting and control system in the JLL Shared Services Center in Taguig. The Philips solution comprises a networked system, utilizing a Dyalite DALI lighting control platform in conjunction with a selection of Philips dimmable MasterLED, Coreline, Greenspace and QBS LED luminaires.

Dyalite universal sensors have been used extensively throughout the project area to deliver both presence detection and daylight harvesting capabilities. The system has been configured for a subtle combination

of automated and user-controlled settings. These vary for day and night operations, courtesy of the inbuilt astronomical timeclock.

The combination of the energy-efficient LED luminaires and the embedded intelligence of the control system mean that the target reduction of lighting energy by 42 per cent has been achieved. An estimated 40 per cent of this figure has been realized through the switch to LEDs from the original 2x36W conventional luminaires, while the Dyalite control system contributes the remaining 60 per cent of the savings.

Photograph by:  
KMC MAG Group





[www.philips.com/dynalite](http://www.philips.com/dynalite)

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