

**IKEA**

**Home Furnishings**

**MALAYSIA**

C-Bus Control and Management System

*Case Study* <sup>18</sup>

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## Bright IKEA

*From humble beginnings in 1943, IKEA home furnishings has blossomed into a multi billion dollar organisation with more than 128 stores in over 29 countries. When IKEA opened its Malaysian store in 2003, it implemented a state of the art integrated building management system (IBMS) that would provide an unparalleled level of lighting control to complement IKEA's unique shopping experience and maximise energy efficiencies.*

Situated in the thriving new township of Mutiara Damansara in Petaling Jaya, Selangor, this IKEA store is the largest dedicated home furnishing retailer in Malaysia and biggest IKEA store in Asia. The store spans 33,450m<sup>2</sup> over three levels as well as another two levels of underground car parking.

IKEA's 3000 individual lighting circuits play an important role in the store. Customers are encouraged to wander through the many furnished showrooms and market halls with the emphasis being on self-serve which is why there is so much information on price tags. Lighting is cleverly used to create a friendly mood

*Even IKEA's 50m sign tower is programmed by C-Bus to illuminate at preset times.*

yet not hinder information from being easily read. There is also a playland area to entertain children that allows parents to shop without distraction. Here the lighting is bright and inviting. When customers have made their purchases, they collect large furniture items in the form of the famous IKEA flat packs from the well lit warehouse.

Given the size of the facility, DC Consulting Engineers in collaboration with electrical contractor, CBH Engineering Sdn Bhd and Systems Integrator, A&S Building Tech Sdn Bhd, designed and installed a comprehensive system that would provide automated control of the building's lighting requirements. Well-known for their reliability and cost-effectiveness, Clipsal C-Bus was specified as the IBMS and Clipsal's C-Lution end-user software was chosen to provide real-time control and monitoring of the system.

### Localised lighting control

In the main office area, individual C-Bus key input units have been installed, allowing localised control of lighting. Similarly, meeting rooms have been fitted with a dimming switch that allows occupants to easily control the lighting environment. Occupants simply have to soft press and release the switch to turn lights on and off, or press and hold to ramp lights up and down.

### Maximising energy savings with sensors

For cost-effectiveness, PIR Motion Sensors have been installed in rest rooms. During business hours this lighting remains on allowing safe passage for customers, after hours rest room lighting is only activated via the motion sensors. Light level sensors have also been utilised to eliminate unnecessary lighting costs. Located on each floor, the sensors monitor light levels and transmit this information back to the C-Bus Network. To maintain pre-programmed lighting levels, commands are then sent via C-Bus to switch specific lighting ON or OFF as required.



**Scheduling means hands free switching**

Another function of the lighting system is the C-Bus Scheduler. This program enables the building services staff to pre-set when each lighting group is turned on and off. The time can be set on a daily, weekly or monthly basis.

**C-Lution interface allows master control**

Monitoring the 3000 individual lighting circuits, the C-Lution interface is accessed via a PC located in the security room, and allows easy command and control of lighting in individual areas. From this central location, building services staff utilise C-Lution's 'scheduler' feature to program specific lighting to turn ON or OFF automatically at preset times. This even extends to IKEA's 50m sign tower, the tallest sign tower in Malaysia, which has been scheduled to illuminate from 7pm to 1am and 5.30am to 7am.

In addition, C-Lution also provides status information about other electrical services that are interfaced to C-Bus, including; all main and secondary switchboards and distribution boxes, water tank and chiller room. This information includes; tripping status, pump status, volt and amp readings and alerts building services staff to the specific location of any emergencies, enabling them to respond and restore any failures quickly and efficiently. C-Lution can even generate reports for future reference.

To cover any contingency, a key input has also been installed in each electrical distribution board allowing building services staff local access to lighting should the C-Lution interface fail.

The leading home furnishings brand in the world, the owners of Malaysia's newest IKEA store are thrilled with the results that C-Bus delivers. With C-Bus, they have not only realised superior lighting control, but significant operational and labour savings as well.



The IKEA store in Mutiara Damansara is the largest one in Asia.

## The Benefits of C-Bus Control

Features	Benefits
Individual key inputs	Localised lighting control
Motion sensors	Reduces lighting energy costs
Master Control in security room	Allows central override of all lighting
View status of electrical services on PC	Faster response to faults

## Installation Data

<b>C-Bus Project:</b>	IKEA Mutiara Damansara, Malaysia
<b>Architect:</b>	TJ Ong Architect
<b>Developer &amp; Owner:</b>	Ikano Pte Ltd
<b>Consulting Engineer:</b>	DC Consulting Engineers
<b>Systems Integrator &amp; C-Bus Installer:</b>	A&S Building Tech Sdn Bhd (BMS)
<b>Electrical Contractor:</b>	CBH Engineering Sdn Bhd



C-Lution interface enables master control of all lighting and monitoring of C-Bus and all electrical services.

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