



# **CNS PRESS CUTTING**

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**Mike Welch, Managing Director of Control Network Solutions, highlights how convergent, open standard lighting control solutions mean that engineers do not need to replace a complete control system the day after a client moves into a building.**

# THE BASE MODEL APPROACH

## Open standard lighting controls

**W**hen a new office building is completed, the interior is pristine, with standard facilities and amenities provided for each space that is to be inhabited. For example, each office space will have the same plug sockets, ironmongery, kitchen facilities and various other commodities.

This often results in a neutral colour scheme and standard format, allowing each company to put their own mark on their new premises. For larger companies this can result in significant investment insuring that the carpets and walls are in line with company branding. However, this also results in a large amount of essentially new products being wasted and replaced, literally days after they have been installed.

Not limited to fittings, whole systems are often replaced for a preferred manufacturer's product or for an upgraded solution that incorporates additional features. This is most commonly seen with air conditioning, lighting and security systems, resulting in substantial time and investment refitting a new system that can prolong a scheduled move-in.

One of the most frequent casualties of this move in process is the lighting control system. In many cases, only a basic lighting control system is installed. This means that the lights can be turned on and off, in location-based groups, and in some instances dimmed.

### Inaccurate grouping

However, where lighting groups are designated before the tenants have occupied the space, they can easily be grouped inaccurately. This can result in several lights being on unnecessarily, increasing costs and carbon emissions, when only two lights of the group are needed to emit sufficient lighting for a single desk.

Furthermore, should additional functionalities be required, such as timing, sensor-control or indeed the lighting groups to be reconfigured, in a majority of applications the complete system will need to be replaced.

This is due to lighting control systems being predominantly proprietary solutions, meaning that unless the installed light fixtures and cable manufacturer offers a control solution, the system will not willingly interoperate with another manufacturer's control system. Consequently significant

hardware, time and disruption can be caused as the old system is removed and a new solution installed.

To overcome this barrier and ensure complete flexibility for future system changes, in the initial build stage light fixtures and cables conforming to the Digital Addressable Lighting Interface (DALI) IEC 62386 should be used. An open international standard, DALI IEC 62386 enables any manufacturer's conforming products to be connected within a lighting control system.

### Functionality

By ensuring these open standard based products are installed at this initial stage, a simple on and off control solution can be installed to all units. However, when seeking to improve the functionality beyond that already provided, the system can be easily upgraded without the need to replace the entire system, eradicating unnecessary waste.

This base model approach is taken in various other sectors, such as the vehicle manufacturing industry. For example, when producing a new car model, a base model is offered incorporating standard features that can be upgraded to include additional driver aids, better quality finishes and materials.

Incorporating the space and potential to upgrade in the standard model not only means there is less work needed to include superior features but it also allows for standardisation and the benefits it incurs; reduced costs, time and labour. In addition, it provides the prospect of later upgrading the model with ease, thereby increasing cross-selling opportunities for engineers.

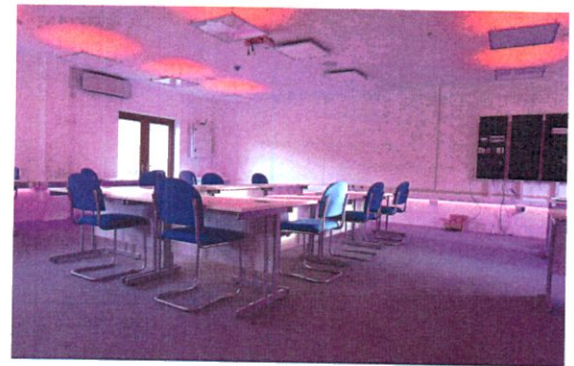
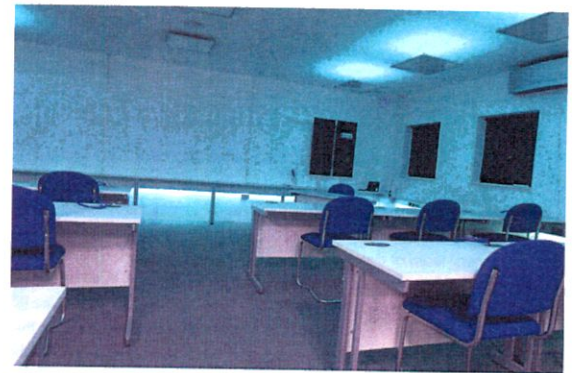
To best utilise the open standard vendor independent lighting system, it should be paired with an equally flexible control system. One such a system is the Internet of Things (IoT) based lighting control solution, elitedali.

A truly convergent technology, elitedali enables the Niagara Building Management System (BMS) to become the lighting control solution. This allows for the direct commissioning, management and maintenance of the DALI lighting network within the building's BMS. Reducing installed hardware, its commissioning time and related risks, the unique control solution provides access to real-time value data, down to the individual light fixture level.

### Commercial environment

Furthermore, as a vendor independent control solution, the network can be commissioned, managed and maintained by thousands of BMS engineers. For a busy commercial environment this choice of supplier is essential to ensuring any issues are quickly resolved and the smooth running of the work environment is maintained.

Based upon the IoT, changes can be made to the system both on and



offline instantaneously, anywhere with an internet connection. This means that without the need for an engineer to visit the site, the desks within an office can be rearranged with the lighting adjusted accordingly with ease.

Providing significant energy savings, elitedali can save between 50-75% of the energy and carbon emissions associated with lighting, compared to a building that has not installed an intelligent automated lighting control system.

In addition, due to elitedali enabling the BMS to become the lighting control solution, the risk of parasitic power consumption by the control system itself is greatly reduced. Consequently, elitedali accounts for less than 1% of the power used within a medium size office building.

From April 2018, Energy Efficiency (Private Rented Property) Regulations will require non-domestic private rented properties to have a minimum Energy Performance Certificate (EPC) of Band E when a new tenancy is established or current tenancy extended. This will be extended to all non-domestic private rented properties in 2023.

By installing the open standard 'base model' for smart lighting controls the need to replace and waste newly installed hardware is eradicated. Furthermore, the lighting control system can then be upgraded at the discretion of tenants, resulting in significant energy and cost savings, whilst creating substantial opportunities for building services engineers.

▶ Control Network Solutions provided the lighting controls for the One Sight Solutions Training Centre. The IoT-based lighting control solution, elitedali is a truly convergent technology, enabling the Niagara Building Management System (BMS) to become the lighting control solution.

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