



SMART LED LIGHTING



Smart Buildings need Intelligent Lighting

Network cabling has become the central nervous system of the Smart Building - a single infrastructure providing voice, data, security, AV, automation and now Intelligent Lighting.

Comtec introduces the latest centralised-driver LED lighting technology from IST. The intelligent way to illuminate your Smart Building.



INTEGRATED
SYSTEM
TECHNOLOGIES

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What is Intelligent LED Lighting?

LED lights have been available for many years, but **Intelligent LED Lighting** incorporates several new technologies:

Utilises a Safety Extra Low Voltage (SELV) circuit distributed across a standard Cat6/6A structured cabling system

- Removes the need for 230Vac in the ceiling
- Fast and easy to install with plug-and-play RJ45 connectivity
- No need for qualified electrical technicians
- Significantly reduces opex & maintenance costs

Compatible with any LED luminaire

- Total flexibility in lighting design
- Luminaires can be chosen for their aesthetics, performance & energy efficiency
- Reduces both luminaire & running costs

High performance drivers for totally flicker-free operation - even when dimmed

- Improves wellness & productivity

Centralised drivers are located in easily-accessible equipment racks

- No drivers in the ceiling so no need to access the ceiling space for maintenance or repair
- Easy maintenance with no disruption to public areas
- Reduces opex & maintenance cost by up to 82% compared to 230Vac installations

Integrated control system with real-time data analytics

- Provides real-time data to drive efficiency improvement
- Interfaces with industry-standard lighting & BMS systems
- Can reduce energy consumption by up to 85%

Project References

Tate Modern Gallery - London, UK



Dubai Opera House - Dubai



Wimbledon Lawn Tennis Club - London, UK





Benefits

Installation and commissioning cost savings

- Technicians can install the cabling for the lighting system at the same time as the cabling for voice, data, security and AV – it all runs on the same standard, low voltage structured cabling system. Also, unlike for 230Vac cabling, there is no need for electrical distribution boards or separate conduits for lighting.

Reduced maintenance costs and no disruption

- Centralised drivers, and the luminaires powered by them, have a typical life-span of 50,000+ hours.
- As drivers are located centrally within equipment cabinets – typically in the IT or electrical distribution room – they are instantly accessible. There's no need to access the ceiling void which can be particularly costly and disruptive in office environments and public spaces- especially those with high ceilings such as hotel lobbies, office receptions and shopping malls where expensive access equipment such as aerial work platforms are required.

Reconfiguration is easy

- With no mains wiring in the ceiling, reconfiguration is a matter of plug-and-play connectivity with remote control from central locations.

Future-proofed with easy upgrades

- Centralised systems are simple and easy to upgrade – as new technology becomes available it's just a matter of fitting another panel into the rack. Perhaps the most exciting upgrade will be Li-Fi, described overleaf.

Li-Fi – The Future of Communications

Traditional wireless technologies have proved invaluable - the only problem is we're running out of bandwidth. With over 75 million connected devices forecast by 2025 Wi-Fi will not be able to cope, 5G has limited penetration through walls and the rest of the RF spectrum is already allocated. Hence the need for Li-Fi.

Li-Fi uses a visible portion of the electromagnetic spectrum to transmit data.

So imagine... just by adding a Li-Fi panel into the lighting equipment rack the existing LED lighting system is transformed into a communications network!

Within a few years it's predicted that phones, tablets and laptops will all be equipped with Li-Fi functionality and a visible light communications solution will co-exist with Wi-Fi.

Even now exciting projects are being rolled out. For example, in the Scottish Orkney islands, Li-Fi is being used as both a last-mile broadband delivery solution using domestic solar panels as receivers, and within the home for high-speed wireless networking via LED light bulbs and USB dongles.

Li-Fi will transform the future of connectivity.

Benefits of Li-Fi



Fast

Up to 100 x faster than Wi-Fi



Efficient

Li-Fi utilises ultra-efficient visible-light LEDs



High Bandwidth

The visible-light spectrum is unlicensed and free to use



Safe

Avoids the use of potentially harmful radio frequencies
– particularly relevant in sensitive environments



Secure

Unlike Wi-Fi, Li-Fi does not 'leak' out through walls



Throughput

Up to 1000 x the capacity of traditional RF wireless



Low Cost

Requires fewer components than traditional RF wireless technology



Environmentally Friendly

LEDs generate minimal amounts of heat

Smart Workspace Management Solutions

Office space is often the second largest investment that a company makes. Unfortunately, it is often the most difficult resource to manage effectively.

Achieving 100% office occupancy is realistically never going to happen by design but when on average sub 50% office occupancy is the norm, it makes sense to look at becoming more efficient in how much office space we really need and how to design it in the best way to maximise efficiency. Using analytics to identify office space usage and reducing office footprints to reflect actual occupancy can save considerable costs related to overhead, operations and helps to reduce our carbon footprint.

Using IST's advance control system, iMune® and under desk sensors provides real time data and historical usage of desk space. Enabling you to better understand how your offices are used and giving you the information you need to make informed decisions.

For example, a London office with 1000 desks at the annual average occupancy cost of £12,900 per person, could save £129,000 per year with a 1% reduction of their desks/office space.



Join the Intelligent Lighting Revolution

Comtec's facilities in the UK, Middle East and Far East market and support the IST Intelligent Lighting solution. We wish to partner with like-minded companies to deliver this revolutionary technology to visionary end-user clients.

Partners include:

- ICT system integrators
- Lighting designers and installers
- Construction companies

Comtec offers:

- Full design assistance
- Technical support
- On-site commissioning
- Marketing support

For further details please contact Comtec's Intelligent Lighting Product Manager, Eddie Brady, at ebrady@comtec-comms.com

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