

Qualified Bluetooth® mesh

The Benefits for lighting

The Challenge

There are four big changes happening in society. Lighting has a strong role to play in all of these areas.



Climate change - In lighting we always looking for: the right amount of light, in the right place, at the right time. Previously using more traditional controls, this paradigm was difficult to achieve. With Intelligent lighting, this potential is being realised with increasing success and simplicity.



Wellbeing - 90% of our time is spent in buildings so it is imperative that we ensure the occupant's well being in order to feel comfortable, safe, and increase of productivity. We should remember that energy is a minor cost of a whole building (c.1%), while the cost of people are significantly larger (90%) and thus a far more important as a measure of a building's performance.



Digitalisation - Lighting will become the digital infrastructure of the building because of its unique set of features. Lighting is a widely distributed, fixed location, powered infrastructure throughout a building which can be easily internet connected and can be enabled with a range of sensors opening up the opportunities for (environmental) data acquisition and service delivery.



Sustainability – We see new performance standards, building directives, incentive programs all designed to drive more sustainable builds. High quality, well designed Intelligent lighting helps achieve higher performance and rewards.

How does the lighting industry change to meet those needs?

Making this transition to meet these four big challenges will affect **all the stakeholders** involved in lighting. And the lighting industry has a big challenge to adapt.

- "How do I ensure quality of wireless products?"*
- "Do I need new skills in my business?"*
- Cyber-security expertise – Is it secure?*
- "How do I know if things work together?"*
- "If something breaks will it keep working?"*
- Lack of IT skills in installer base*
- Space changes frequently – lots of maintenance*
- Proprietary or Open standard?*
- Is it future-proof?*

The Solution

Qualified Bluetooth mesh

The Bluetooth® mesh networking specifications define an interoperable many-to-many (m:m) mesh networking solution for Bluetooth Low Energy (BLE) wireless technology. Ideally suited for control, monitoring, and automation systems where tens, hundreds, or thousands of devices need to reliably and securely communicate with one another. Qualified Bluetooth mesh delivers a wide range of core benefits.



Wireless

No new cables needed – ideal for protected buildings
Fine mesh of communication for high reliability and co-existence with WIFI.



Ubiquity

Widely adopted the world over and used in a diverse set of devices. A trusted communication platform with multi-industry investment.



Availability

Built into our phones we remove the need for additional peripheral devices like gateways. Bluetooth can create a direct connection to the target device.



Wide Community

With a wide developer community available, Bluetooth is more affordable and easier/cheaper to maintain.
Open source software/development tools are available.



Natively reliable – Decentralised and distributed

Bluetooth technology has native capabilities for distributing information across devices (m:m) with multi-path messaging meaning no true single point of failure unlike Zigbee, WIFI and DALI.



Interoperable

Qualified mesh standard ensures all devices use a common "application layer" called "models" to ensure interoperability and a common provisioning method.



Scalable – Managed mesh – 4000+ Devices

Big or small scale, a managed flooded mesh network ensures messages always reach their destination, even if a device fails. The network is managed and balanced all without the need for a central controller.



Security is designed in

Designed with security at its heart employing a wide range of security measures. The security is considered at all levels of the system and takes a through life approach to security.



Future-proof

Includes Over The Air (OTA) Update capabilities which means device firmware can be upgraded keeping your system working as well as possible