An essential guide to Smart Lighting Controls

Casambi provides electrical installers with a round-up of the key advantages and features that smart lighting controls deliver in commercial applications

CASAMBI

Lighting Control For The Modern World

A guide for electrical installers

In a world where people manage their social lives, entertainment and banking from their mobile devices, they expect to do the same with their lights.

Casambi **makes this possible thanks to cutting-edge technology behind the scenes. But just because the equipment is high-tech, this doesn't mean it has to be complicated to install.**

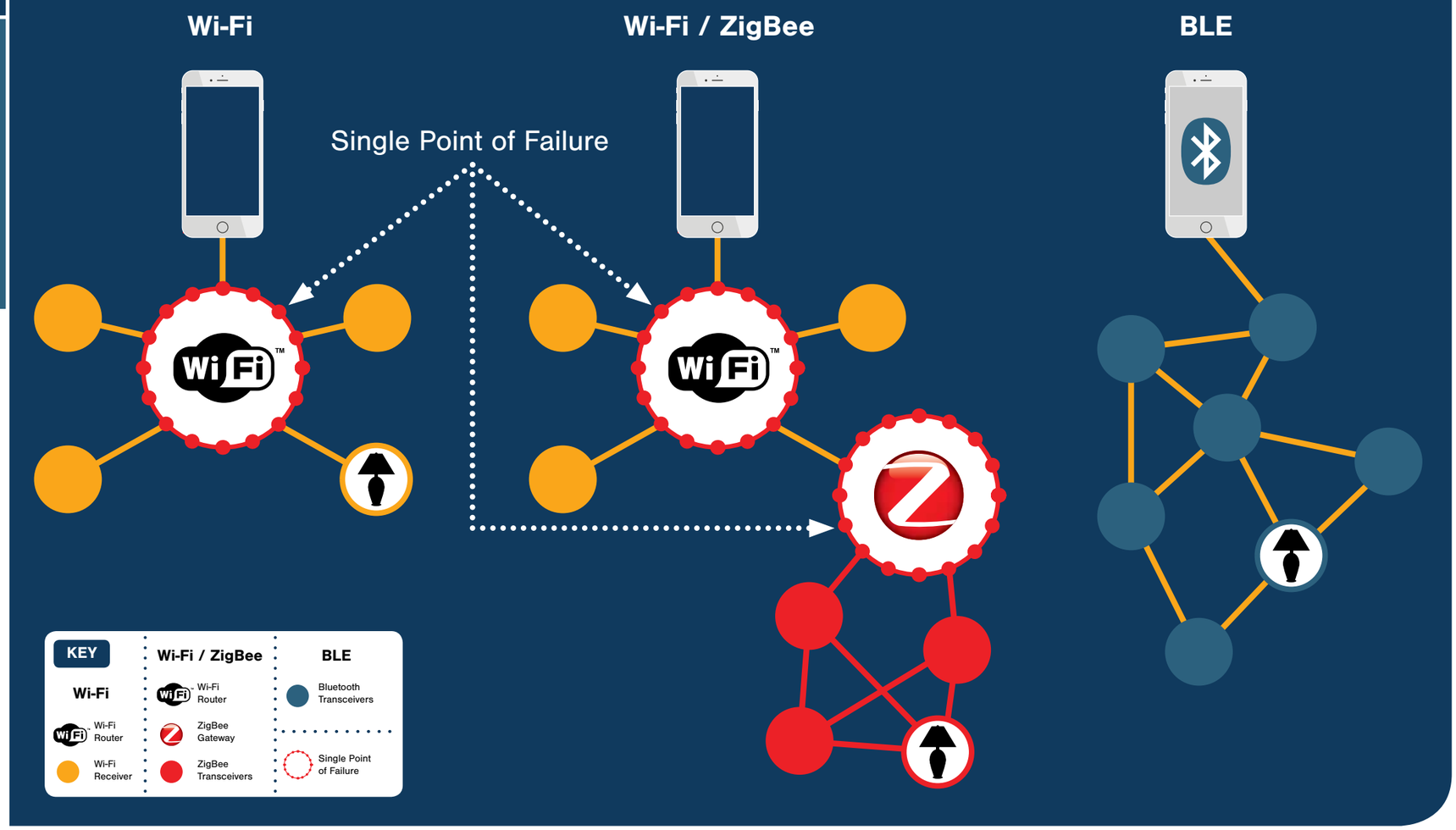
What is smart lighting?

Smart lighting isn't just about dimming or turning on and off in response to sensors and timers. Smart lighting is connected and intelligent, so that it can change in brightness or colour in response to all kinds of stimuli. This can be used to save energy, to enable dynamic light displays, and deliver 'human-centric lighting' that promotes well-being. By harnessing the Internet of Things, smart lights can be controlled from mobile devices or programmed to respond to data from other devices and online services – such as the weather, the location of your car as it pulls up outside the front door, or the TV being switched on. With smart lighting the possibilities are endless.

There are numerous so-called 'smart' lighting systems available – and some are smarter than others. In the past they have mostly been based on Wi-Fi, ZigBee or both: a mobile device uses Wi-Fi to talk to a gateway (such as a router) and the gateway uses ZigBee to talk to the lights. Neither of these two protocols is ideally suited to controlling lighting: they're prone to interference, require a strong network signal at all times throughout the whole area where lighting is in operation (which is difficult to achieve and can compromise data security), and their reliance on a gateway introduces a single point of failure, making the whole system fragile.

Casambi's revolutionary system is based on **Bluetooth Low Energy**, the only low-power radio communication technology that's built into every modern smartphone, smart watch, laptop and tablet. It provides robust, professional-level smart lighting control from almost any mobile device – and installation couldn't be simpler.

Architectures



Smart lighting - how does it work?

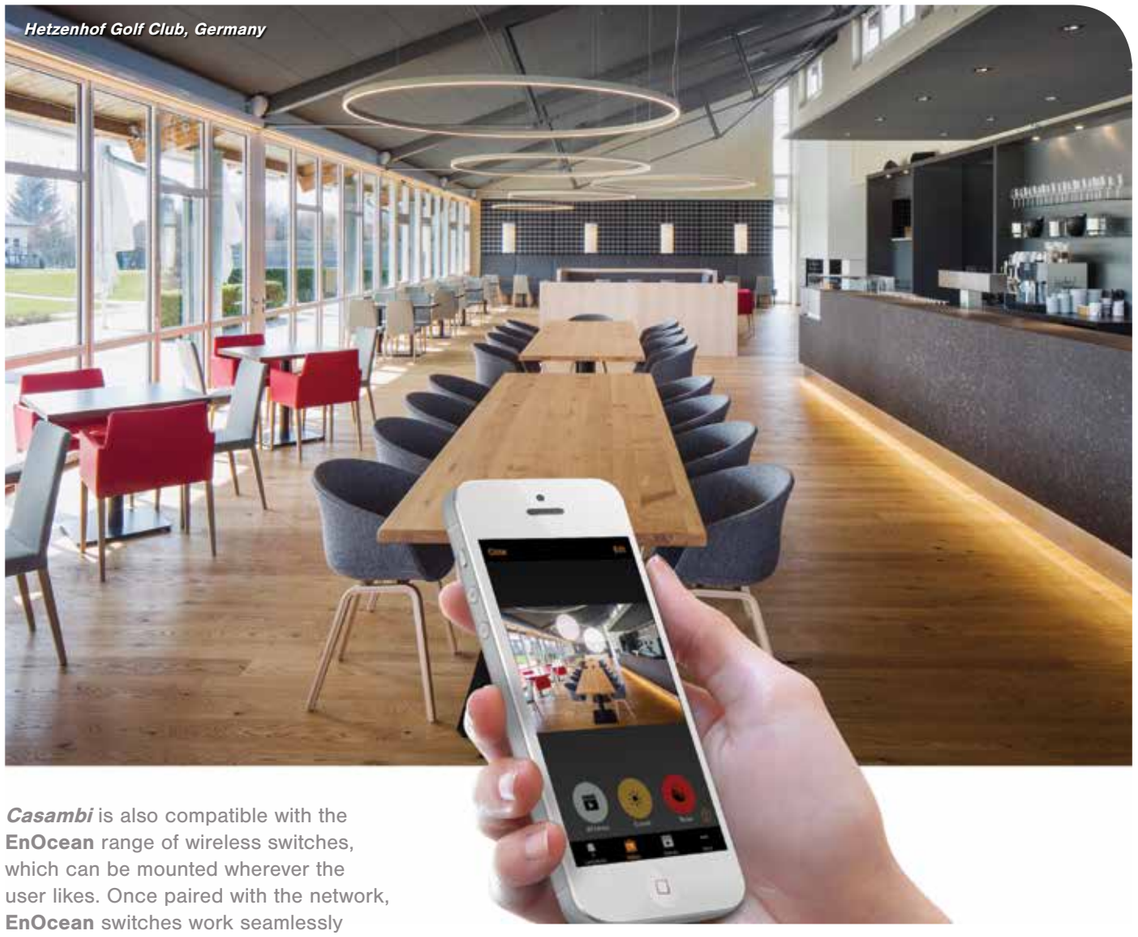
Leading lighting manufacturers have integrated *Casambi's* Bluetooth module into their luminaires, drivers and control modules to make them compatible with the *Casambi* system. The module can also be retrofitted into standard light switches.

To control the lights, users simply download the ***Casambi*** **app** to their Android or iOS device for free, or use compatible wall-mounted or wireless switches. Fittings equipped with the ***Casambi*** **Bluetooth module** can communicate directly with mobile devices, and with each other. They form a self-organising and self-healing mesh network where each luminaire can relay information to and from others, so if any individual luminaire fails, or is removed or reconfigured, the lighting controls keep working.

What equipment is required?

To control lights with *Casambi*, all users need are *Casambi*-enabled luminaires and a mobile device to control them with. Pretty much every phone, tablet and laptop bought in the last five years is fully compatible with *Casambi*, and thousands of compatible luminaires from many leading manufacturers of lighting fixtures. Even without a mobile device, users can control *Casambi* from traditional wall switches retrofitted with the *Casambi* Bluetooth chip, or by using any of the wide variety of compatible wall-mounted and wireless switches.

For example, ***Casambi's*** **Xpress wireless controller** can be configured to control luminaires wirelessly, dimming up and down or changing the colour temperature or the balance of direct and indirect illumination.



Hetzenhof Golf Club, Germany

Casambi is also compatible with the **EnOcean** range of wireless switches, which can be mounted wherever the user likes. Once paired with the network, **EnOcean** switches work seamlessly with ***Casambi***, controlling individual luminaires, groups or scenes. Not only are **EnOcean's** switches wireless, but their energy-harvesting technology means they will never need batteries.

Unlike many 'smart' products, *Casambi*-enabled products can receive firmware updates over-the-air when required, making the system futureproof.

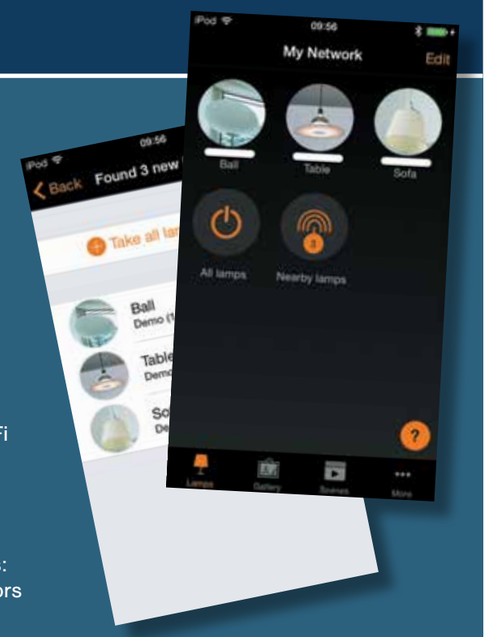
What do installers need to do differently when installing a *Casambi* system?

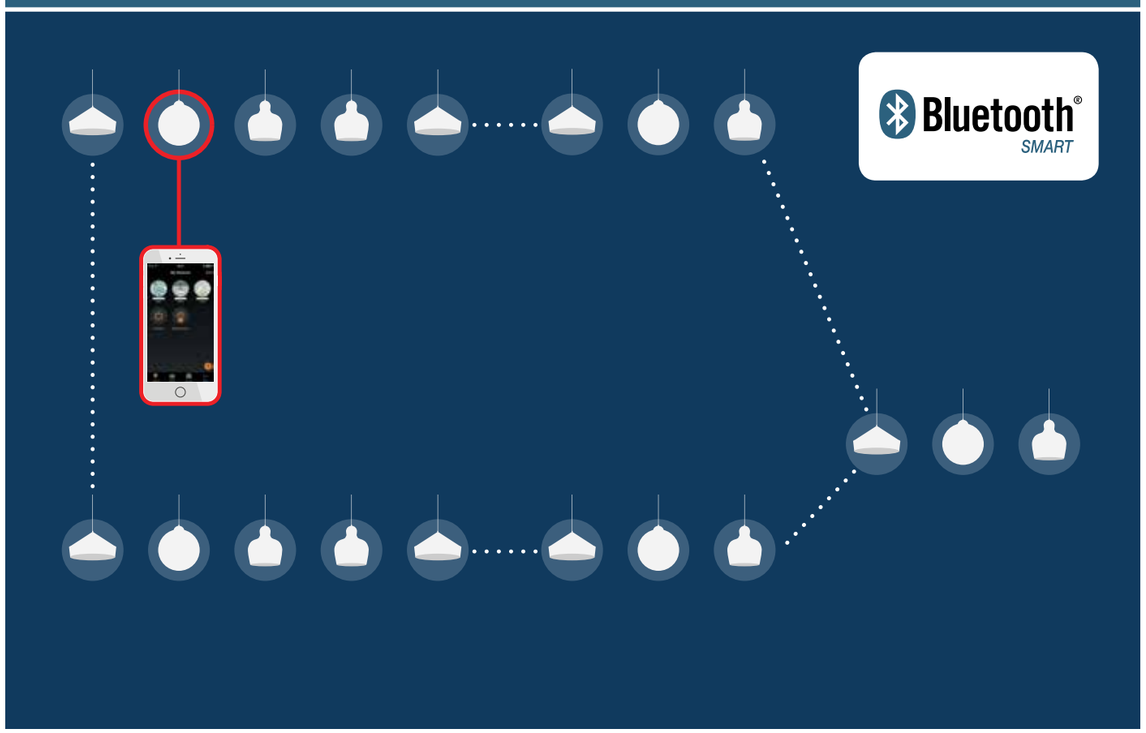
Hardly anything. Simply install *Casambi*-ready luminaires and controllers, or retrofit *Casambi* modules into standard wall switches to control existing lamps and luminaires.

Unlike most professional lighting control systems, which need to be planned, fitted and commissioned by technical experts, ***Casambi*** requires no new wiring and no network hardware (other than the light fittings themselves).

And because ***Casambi*** doesn't rely on Wi-Fi, there's no need for a gateway such as a router or bridge. Even if there's no Wi-Fi network nearby at all, ***Casambi*** will work fine. As for commissioning, it's simple enough to be done by users themselves through the ***Casambi*** app.

But it's still sophisticated enough for more complex installations: facilities managers can easily set themselves up as administrators and limit which functions are made available to general users.



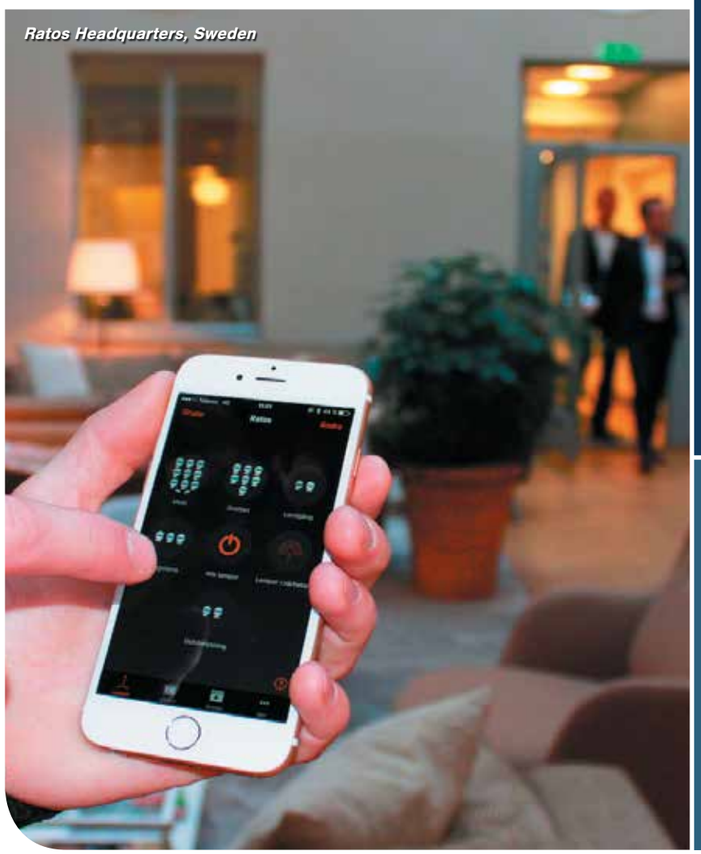


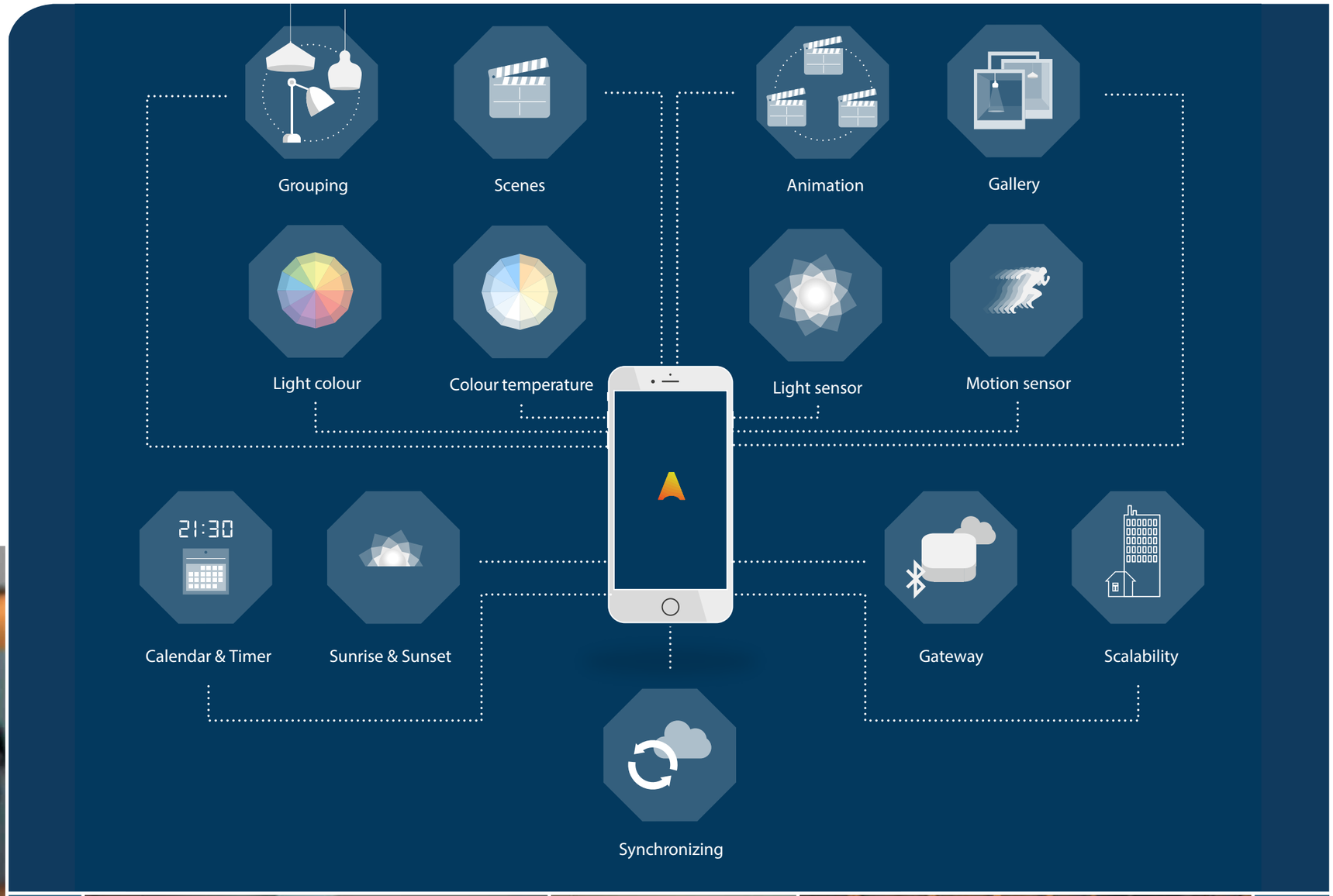
What kinds of commercial projects is *Casambi* ideal for?

***Casambi* provides professional-level control and can deal with an unlimited number of luminaires. These are being installed in everything from private residences to large-scale office and retail projects.**

It's ideal for locations that want to harness the Internet of Things, providing a way to communicate data to the Cloud collected by sensors that monitor things like presence, temperature and CO_2 levels.

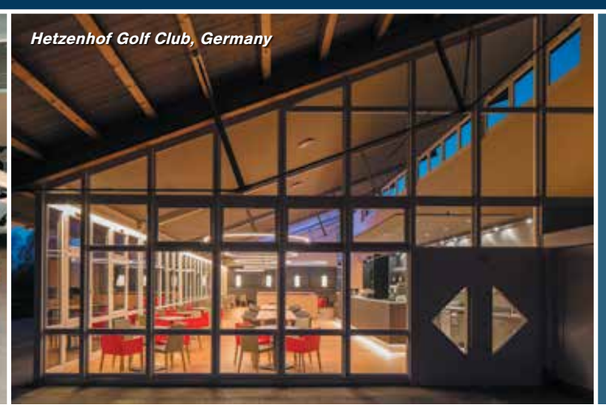
And because it's totally wireless, ***Casambi*** is a particularly attractive choice for retrofit applications, historic buildings and temporary installations such as museum exhibitions, retail displays and even pop-up shops.


Ratos Headquarters, Sweden




Registers of Scotland Glasgow office, UK


Mazda Showroom, UK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