



IoT Solutions  
Group



**Safecility**

# Emergency Lighting

## The Case for Change



# Partnership with Value

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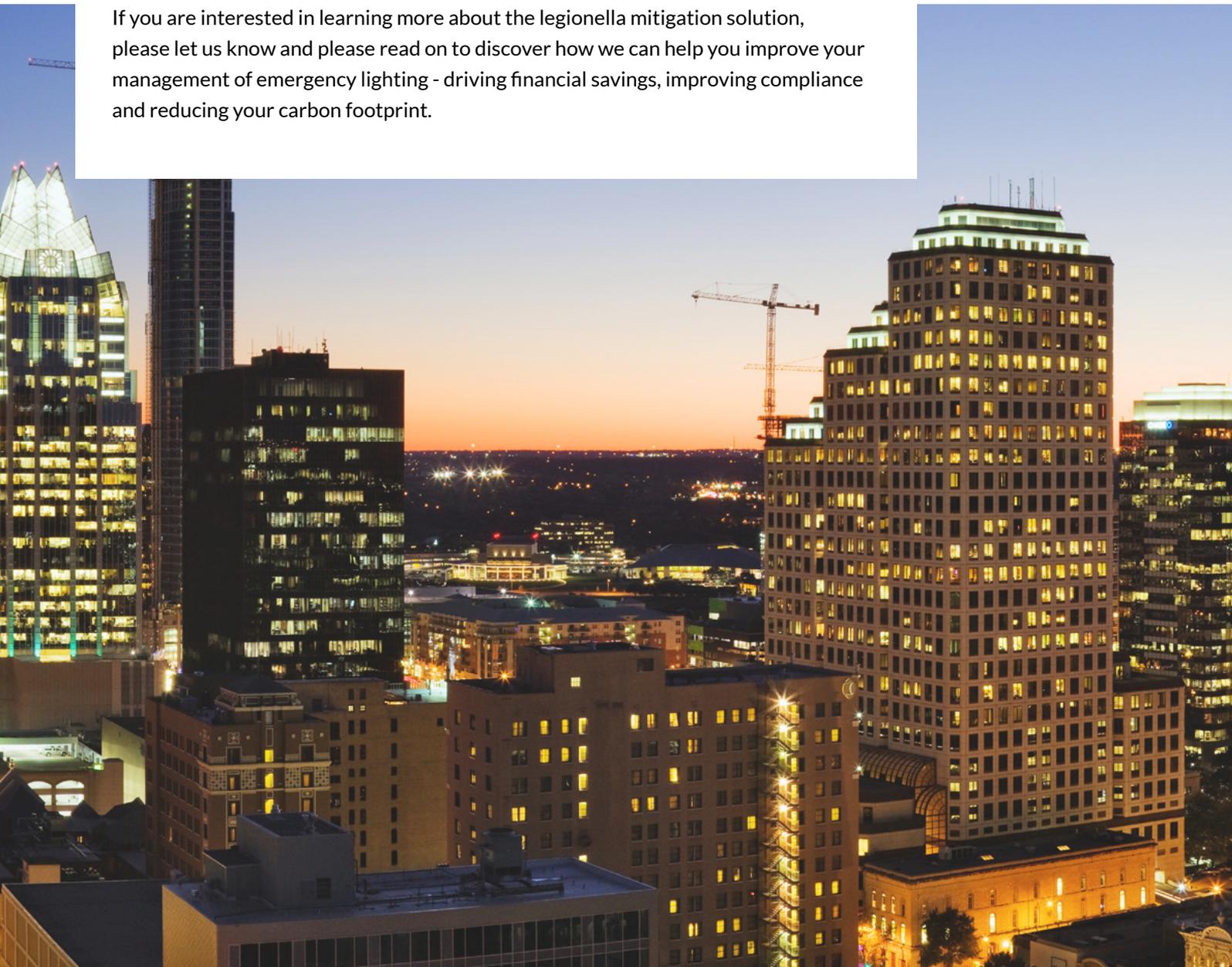
Safecility and IoT Solutions Group are both specialist providers of Internet of Things solutions that help private and public sector organisations drive value from their data.

Both organisations have teams of experts in their fields and we find that, by working closely together, the maximum possible value can be delivered for our clients.

In this document we take a close look at the reasons why many organisations are looking to move away from traditional (manual) methods of monitoring emergency lighting, to fulfil their regulatory obligations. We cover how the IoT can help improve this activity with a solution developed by Safecility.

We know that for many organisations that need to monitor emergency lighting, there is also a requirement to ensure compliance with legionella mitigation legislation. This is an area of activity for which IoT Solutions Group has developed an innovative and proven solution. Therefore, by working together we can implement streamlined and integrated solutions, easing the burden and complexity that would otherwise be faced by organisations looking to address these two vital areas of compliance.

If you are interested in learning more about the legionella mitigation solution, please let us know and please read on to discover how we can help you improve your management of emergency lighting - driving financial savings, improving compliance and reducing your carbon footprint.



# Value Versus Risk

For building owners continuous management of emergency lighting is a critical part of wider fire safety management. 100% compliance with standards is not easy, but it is mandatory, with significant repercussions for building owners found to be non-compliant. Improper management can result in large fines or even imprisonment, while occupants face a serious risk to life if lights fail to function in an emergency situation. The need for compliance is compulsory so the question is not if, but rather how estate and facilities managers can manage emergency lighting testing in the most efficient way.



Keeping on top of emergency lighting compliance is onerous. Testing must be carried out on all lights at a minimum monthly with more frequent visual inspections needed for central battery systems. An up to date log of all testing and repairs across all buildings also needs to be kept to prove compliance.

In most cases the practice of testing emergency lighting is carried out manually. Technicians visit every luminaire monthly to test and inspect. If the luminaire fails testing it must be repaired as quickly as possible to remain compliant. Where technicians do not have the parts required to hand, a return visit is necessary. As part of this process, information about testing, defects and repairs are recorded either on paper or using a smartphone or tablet. Despite everyone's best efforts and intentions, manual processes like this are open to human error. A way to overcome the issues that come with human involvement is to use an Automatic Testing System, but unfortunately they do have drawbacks. They're expensive, require rewiring or demand vendor lock in to a single brand of lights. For estate managers with multiple buildings in multiple locations, manual testing, despite its faults, is often the most practical option.



**18 month imprisonment for hotelier in 2015** <sup>1</sup>



**Tata Steel £200,000 fine** <sup>2</sup>



**Private landlord £400,000 fine** <sup>3</sup>

1: <https://www.luxreview.com/2015/02/20/here-s-a-guy-who-wishes-he-d-looked-after-his-emergency-lighting/>

2: <https://www.luxreview.com/2015/02/19/tata-fined-200-000-after-lights-fail-during-steel-plant-accident/>

3: <https://www.luxreview.com/2018/07/02/record-4m-fine-over-lack-of-emergency-lighting/>

# Traditional (manual) Methods of management

Function and duration tests are the two key checks all emergency lighting within a building must pass to demonstrate that they're fully operational and the battery is robust enough to last for the full length of time it takes to get everyone out of the building safely. In buildings with emergency lighting test switches, power to the lights is cut and each emergency luminaire inspected to ensure it's performing as expected. In buildings where DALI self test lighting is installed the luminaires are programmed to test themselves and report a pass or fail result via an LED mounted on the light. Although testing is completed automatically in this scenario, a technician still has to walk the building to check the status of each light, complete repairs if needed and record the results.



## PITFALLS

- Testing is labour intensive and expensive. Where multiple buildings are involved, travelling from site to site to inspect lighting quickly adds up.
- Manual testing lacks trust - it's open to human error and in some cases neglect of duties while record keeping lacks transparency, can be inaccurate or even misleading.
- Manual data entry of results is cumbersome and inefficient and records only give a snapshot of compliance at a single point in time.
- Maintenance cannot be planned - technicians have zero idea of failures until attending the light.
- Information can slip through the cracks leading to accidental non-compliance



## COSTS

Manual testing of emergency lighting gives rise to an ongoing monthly cost that quickly adds up when there are multiple properties involved. Other cost implications arise where out of hours testing during periods of lower risk are required to ensure there's sufficient time for batteries to recharge or to minimise disruption. Allowance for staggered testing may also be necessary in the interest in safety but will increase the time technicians must spend in each building.



# Modern Monitoring Methods

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Over time the market has responded to the many issues thrown up by manual compliance testing of emergency lighting. Development of wired automatic testing systems that report results to a single panel located within a building still require a site visit but do provide some efficiencies as technicians no longer need to walk the building to review each light. Despite these efficiencies, the downside to these systems is they require rewiring of each building and are extremely expensive and disruptive to install. For estate managers with multiple buildings spread over a wide geographical area, implementing wired systems give rise to as many, if not more disadvantages than they do advantages.

Advances in IoT technology now mean estate and facilities managers can automate their emergency lighting testing without rewiring. Retrofit sensors can simply plug into DALI enabled lights to monitor the light and report results of testing to a central software platform. Testing is scheduled automatically and failures are communicated to the responsible person in advance of a site visit.

Technicians no longer have to visit each building monthly to complete testing, instead, they only have to attend site to repair luminaires that have failed. Before travelling to address the cause of the failure, they are equipped with all details of the cause of the failure so the correct parts can be brought to site.

This is in contrast to manual testing where technicians have to discover the cause of the problem in person, procure parts and return to site again to carry out repairs.

Site visits are dramatically reduced and record keeping is taken care of. Valuable resources can be redeployed to other areas of need without compromising on compliance.







## Benefits

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The resources needed to achieve compliance with emergency lighting standards are increasingly burdensome. Compared to automatic testing systems, manual emergency lighting testing is costly and time consuming and creates significant trust and transparency challenges, but for many building owners, it's their only workable option. IoT compliance offers the benefits of automated testing without disruptive installation, vendor lock in and high capital costs. This new approach allows significant saving of resources and enhanced compliance.

An additional benefit linked to the reduction in site visits is a significant reduction in carbon emissions. Across large estates and in busy areas, these reductions contribute greatly to organisational sustainability goals.

## Financial

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The personnel costs required for manual emergency lighting compliance can run into the thousands especially when travel time between each site is required. IoT technology can remove the need for unnecessary site visits, free up valuable resources and dramatically reduce compliance costs.



# Time to Change

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Our goal is to make the buildings we live and work in safer. We want to support our clients with technology that's quick and simple to implement, that will help them become more efficient, reduce their carbon footprint and improve their compliance.

If you'd like to explore how you can do things differently or even just to learn a bit more about IoT we'd love to hear from you.

At Safecility we know from experience IoT can revolutionise building compliance, transform internal processes and ultimately save lives. Making the decision to explore IoT may be uncharted territory for your organisation, but we can prevent it being overwhelming. You can be confident in our knowledge and expertise to deliver straightforward and easy to implement solutions.

**The time to change is now, so let's talk.**

Please visit our web site at [www.safecility.com](http://www.safecility.com) or drop us an email on [hello@safecility.com](mailto:hello@safecility.com) and let's discuss your journey and how we can help you.