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Succeeding in a time of change and scrutiny

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SAMSUNG

SWITCH ON PRODUCTIVITY

Tamsin Oxford sheds some light on the laws regulating office lighting

When the hunt is on for causes of lost productivity, there's a long list of usual suspects. Bad traffic and long commutes, problems at home, poor management, and even company culture. Office illumination may seem spurious by comparison, but plenty of studies suggest that it's not only a key problem, but it's an ongoing one.

In the 1980s, a report commissioned by the American Society of Interior Designers found that 68% of office workers were not satisfied by the lighting in their workplace. In the early 2000s another study, undertaken by Cornell University, found that 24% of office workers blamed lighting for productivity dips due to eyestrain and discomfort.

So we've known for a long time that fitting new lights can boost productivity. If only it were that easy: a 2016 study of Indian and Iranian workers found that the right combination of colours and brightness was a very personal thing. "We all understand that artificial light has a negative impact on human productivity and that natural light has the opposite effect," says Peter Kowalski, managing director of office designer Formfunc. "Human performance is affected by the hormones cortisol (stress) and melatonin (sleep). The former is produced when we're exposed to blue light from the sun or artificial sources such as PC or laptop monitors, the latter during dusk or from red light emissions. An imbalance of both or either impacts on circadian rhythms."

Peter Kowalski

Employees spending their days in an office flooded with 500 lux of artificial light at the wrong light temperatures can experience significant declines in productivity, Kowalski says.

Unfortunately, South Africa has set exactly this as the standard for lighting best practice – the Occupational Health and Safety division of the Department of Labour has specified that the workplace should be at 500 lux, especially where computers are in use. ›

A LIGHT CONSIDERATION

There are a number of factors that should be considered when implementing lighting solutions in the home. Alison Groves, Regional Director, Building Services, WSP Africa, provides four points that should be at the top of any business's list:

1. **Use opportunities to capitalise on more natural light.**
2. **Choose a variety of lighting colours – warm white light can closely mimic natural lighting, while blue lighting increases brain activity and responsiveness.**
3. **Consider the average age of the employees who will need to use the space as this can affect the type and quality of the light.**
4. **Install energy saving lighting as this can reduce carbon emissions and save money.**

FAST FACT

Custom-made light fittings and indirect lighting can highlight certain areas in the office. For example, a spotlight or colour lights could highlight a brand.

"The challenge is that engineers in South Africa must subscribe to the South African standards," says Kowalski. "If someone falls over an object in an open plan space where the lux levels are too low, then the engineer is sued. Until the standards are addressed, this issue will remain a challenging one."

THE FLEXIBLE FIX

However, it is not a bleak landscape of sharply lit corners and reflective desks. There are tools that organisations can employ to soften and improve the lighting in the office and in the boardroom. The first of these is to create break out areas that use different lighting solutions to inspire different moods. A beanbag creative area can have softer lighting whereas a standing working table can sit at a stronger lux to enhance the visibility of the area.

"An ideal workstation lighting design should be around 400 lux," says Hugh Fraser, Media Manager of architects and interior architects, the Paragon Group. "You need to consider the tasks at hand. There also has to be a balance between overhead dimmer lighting and task lighting."

Along with tailoring the lighting to fit the space, it is important to ensure that there is always adequate lux and that the lights are positioned so they don't reflect off the monitors or create shadows.

Lighting should also be crafted to fit the specific space – the light in the reception area should be considerably different from the boardroom.

"Flexible lighting in the boardroom is important and can be achieved by having multiple circuits," explains Philip Wyatt, Director, Inhouse. "If it is a videoconferencing room, the table shouldn't have a glossy finish so it doesn't reflect the light, and the light levels need to adapt to the different use cases for the space – video conference, formal board meeting or a workshop."

Alison Groves

To ensure the correct blend of natural versus flexible and artificial lighting, the business should engage with the landlords, and interior and lighting designers to ensure lighting schemes that don't adhere to rigid lighting standards, but are actually more closely aligned with enhancing the productivity of employees.

"WE ALL UNDERSTAND THAT ARTIFICIAL LIGHT HAS A NEGATIVE IMPACT ON HUMAN PRODUCTIVITY AND THAT NATURAL LIGHT HAS THE OPPOSITE EFFECT." – PETER KOWALSKI, FORMFUNC

THE LIGHT OF DAY

"Simple design concepts like placing offices along the internal core of the building and exposing open plan places to more natural light is a good start," adds Kowalski. "Dual source lighting is also an option as it creates flexible and energy efficient light in the office."

Spaces need to be designed properly and preferably by a professional who understands the value of positioning, lux and types of light. It is also worth doing a careful analysis with lighting heat maps provided by an engineer as this will provide the architect with the information they need to integrate lighting more effectively.

"While bright lighting can contribute to increased productivity on the office floor, perhaps surprisingly, lower lighting can give people a boost of creativity, making it ideal for boardrooms," concludes Alison Groves, Regional Director, Building Services, WSP Africa. "Quality lighting in the workplace is important, and natural lighting has been proven to have a more positive effect on employees' health, performance and productivity. Increased natural lighting, supplementing artificial light also offers the added benefits of decreasing energy consumption for lighting and thereby contributes to reducing carbon emissions as well as electricity costs." ■

SOURCES

- *Cornell University: http://ergo.human.cornell.edu/lighting/lilstudy/lilstudy.htm*
- *American Design Associates: http://www.americandesignonline.com/blog/impact-lighting-office-productivity/*

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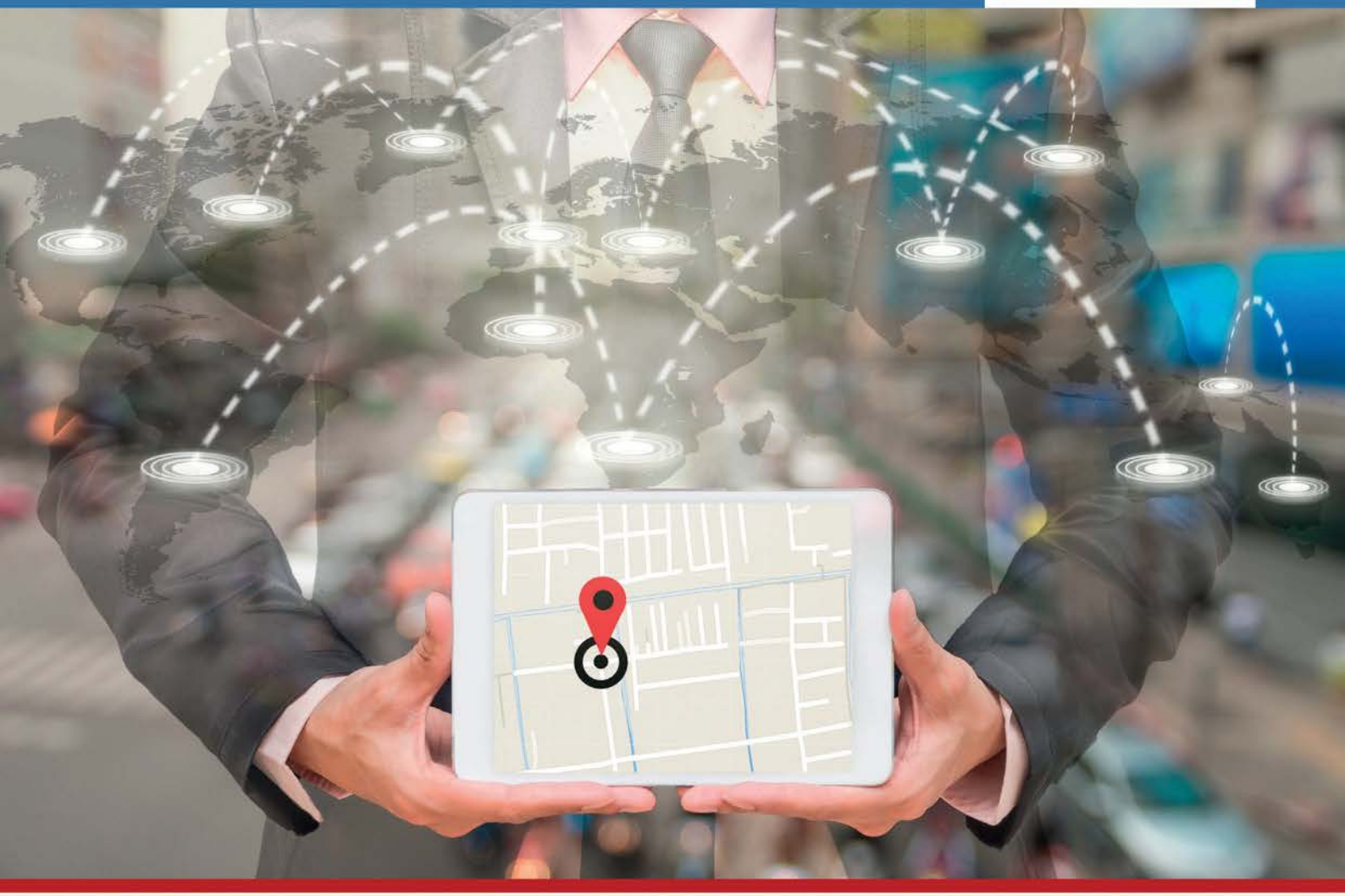

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