



The Natural Evolution Of LEDs: Improving Human Well-Being

According to the WHO, most people spend about 90% of their time indoors. However, exposure to natural light has many health benefits: it facilitates nocturnal rest, improves school performance, and even significantly reduces the likelihood of mental illness at certain ages (1). For this, it is essential that the circadian rhythm (the biological clock that regulates the hours of sleep and wakefulness) be altered as little as possible. Experts in the field insist that the lack of a certain type of light stimulates the body's production of melatonin. This hormone ensures that the biological clock is reset to zero every 24 hours and protects the body from inflammatory diseases and aging.

It is clear that the artificial lighting of interior spaces affects production of melatonin and ends up modifying the sleep patterns of people who spend a lot of time in closed spaces.

LEDMOTIVE: lighting technology for people's well-being

In 2012, aware that LED technology would represent the future of lighting and that there was still work to be done to develop light systems that could considerably improve well-being, Josep Carreras, founder and CTO of LEDMOTIVE and holder of a PhD in Physics, decided to develop a technology capable of

adapting perfectly to people's circadian rhythm. This led to the launch of LEDMOTIVE spectral control technology (patented in 21 countries) that allows the reproduction of natural light, including its changes throughout the day, with the highest visual quality and without resorting to high luminous intensities.

This system combines the light of 7 differentiated colour channels to produce any spectrum of light within the visible range. This makes it possible to eliminate or modify the light that produces the most harmful effects (e.g. violet light) or to emphasize the light that provides the greatest benefits, depending on each correct moment and application. The daily solar pattern is not a simple change in light tonality (Correlated Colour Temperature - CCT) but rather a complete and continuous evolution of the spectrum. With LEDMOTIVE technology it is possible to programme a lighting sequence for circadian cycles, which oscillates between the light spectrum of a sunrise and a sunset, reproducing the hourly variations of sunlight. In this way, the biological clock can be synchronized by artificial light, when there are reasons that prevent access to natural exposure.

LEDMOTIVE: technology ready to make the leap in Europe

At the end of 2018, the board of directors of the company, headquartered in Barcelona, closed a round of financing that had begun some 12 months earlier. This enabled the company

-the leading lighting company in spectral control with LED technology- to obtain a total of €1,850,000, of which €850,000 comes from the "SME Instrument - Horizon 2020" European research and innovation programme. According to Meritxell Carreras, CEO of the company, "LEDMOTIVE wants to expand and above all seeks to reach international markets such as England, France, Belgium, Germany and Sweden". Meritxell Carreras points out that the high degree of technology acceptance in Spain, especially in the hospital sector, leads them to believe that they can achieve a major market share in this area. LEDMOTIVE has installed its technology in the new smart Intensive Care Unit of the Vall d'Hebron Hospital in Barcelona, one of the biggest in Europe and the largest in Spain, to encourage better orientation and to help patients to recover. For this purpose, 21 March has been established as the light-model day, so thanks to LEDMOTIVE technology it is always spring in the ICU.

The applications of this lighting system are innumerable. For example, in schools, to improve student performance and in offices to improve employee well-being and productivity; or in Nordic countries, to reduce seasonal depression due to the absence of sunlight.

PRESS CONTACT

Denis Pereta

Alicia Comunicación +34 933 106 752
denis@aliciacomunicacion.com