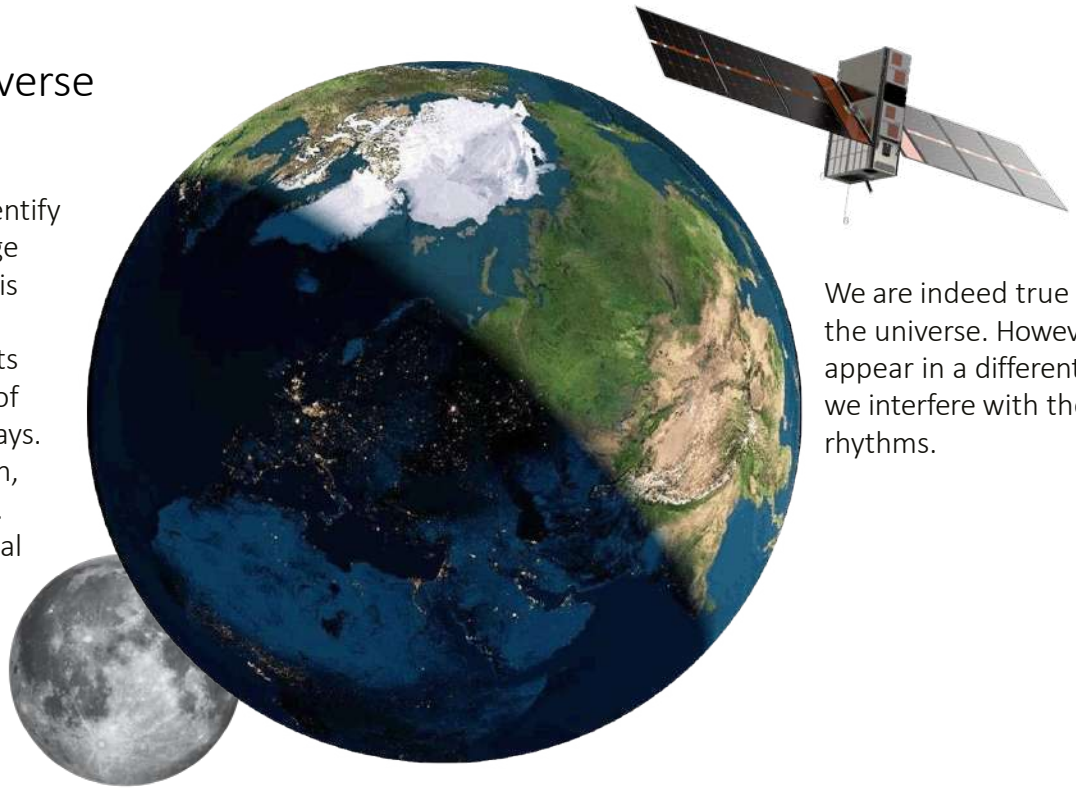
COESIONE ITALIA 21-27 LOMBARDIA

Cofinanziato dall'Unione europea

Regione Lombardia

We are children of the universe

Days, months, years; it's not difficult to identify the influence of the cosmos on the passage of time. The rotation of the Earth on its axis creates the alternation between night and day, while the tilt of our planet's axis and its revolution around the sun are the causes of the seasons and the passing of our birthdays. The rotation of the moon around the Earth, finally, causes the movements of the tides. It is therefore easy to deduce that biological rhythms depend on the rhythms of the cosmos.



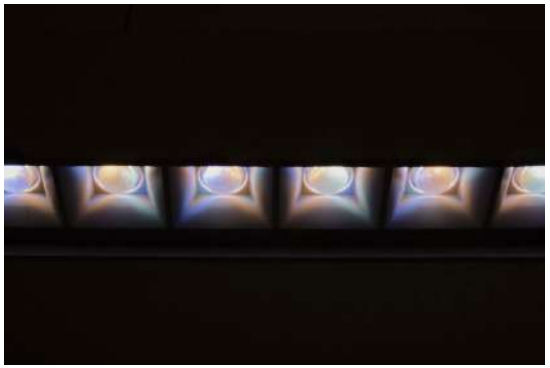
We are indeed true children of the universe. However, things appear in a different light when we interfere with these biological rhythms.

The fact that we can read, write, and even connect to the internet does not exempt us, as animals of the Homo sapiens species, from our need to follow natural rhythms. Typically, we work and socialize in the daylight and sleep at night, but this is not always the case

the Clever light project

The effects of light on humans not only concern their psychophysical well-being but also significantly impact their health, involving crucial aspects of life such as mood, sleep, nutrition, memory, hormone production, blood circulation, and influencing cognitive, emotional, and behavioral faculties

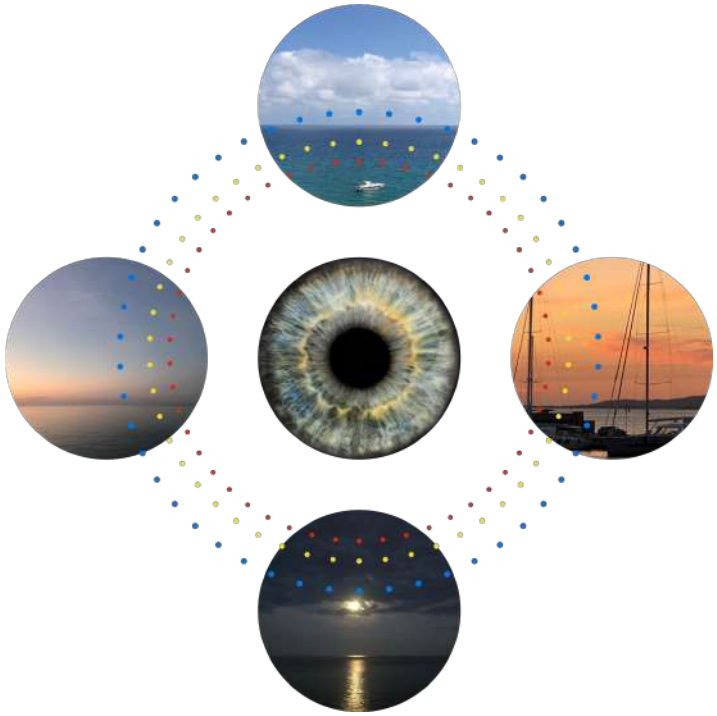
Homo sapiens evolved in an environment exposed to the alternating cycle of light and darkness. This resulted in nearly all biological systems in our bodies having an on-off rhythm linked to this alternation. The introduction of artificial light and changes in lifestyle compared to how nature initially shaped us, however, have disrupted this balance, causing chronic misalignment.



the value of a project

A valuable lighting design project involves multiple aspects:

- Enhancement of architecture
- Psychophysical well-being of individuals
- Integration of artificial and natural light
- Design creativity
- Cost savings in installation through careful and rational selection of suitable light sources and their placement



«It's a team effort for us, which suggests active cooperation among different professionals: architects, artists, landscape designers, experts in lighting, color specialists, and medical professionals. This approach fosters dialogue among experiences and research fields that typically do not interact with each other.»
marco pollice

«We believe in multidisciplinary work. Being able to leverage our scientific expertise for technological innovations is something that stimulates us and drives us to work with passion and dedication. Our scientific team comprises experts with decades of experience in research and medicine, collaborating to design systems beneficial to health with the aim of improving quality of life. We believe that the future lies in the combination of health and technology.»
marco pirovano

MARCO POLLICE Art director at Pollice illuminazione, lighting expert, and researcher innovative lighting

MARCO PIROVANO Director of S.S.D. "Palliative Care and Pain Therapy" Department, Oncology- Hematology, Santi Paolo e Carlo

POLLICE
LOVED SPACE
Clever light
Clever light

sensor

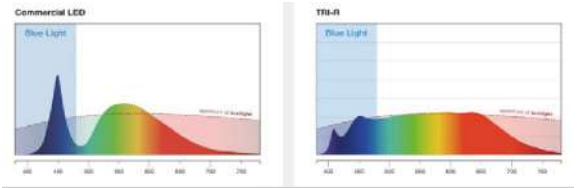
control unit

Clever ight suspension

The Clever light® system, through constant communication between the control unit Wand sensors, is able to control the light spectrum and intensity emitted in the environment based on the time of day, season, and latitude, taking into account existing light sources such as natural light from windows, lamps, colored walls, and reflective surfaces.

Clever light® LED is a spectrally tunable technology that allows for small adjustments at specific wavelengths within the LED light spectrum.

By enhancing the LED spectrum with cyan light, Clever light® LED supports biological impact without altering the visual color or light intensity.



Clever Light it's the innovative and patented system of circadian-friendly lighting

Clever light at school

Feeling well and being active and engaged

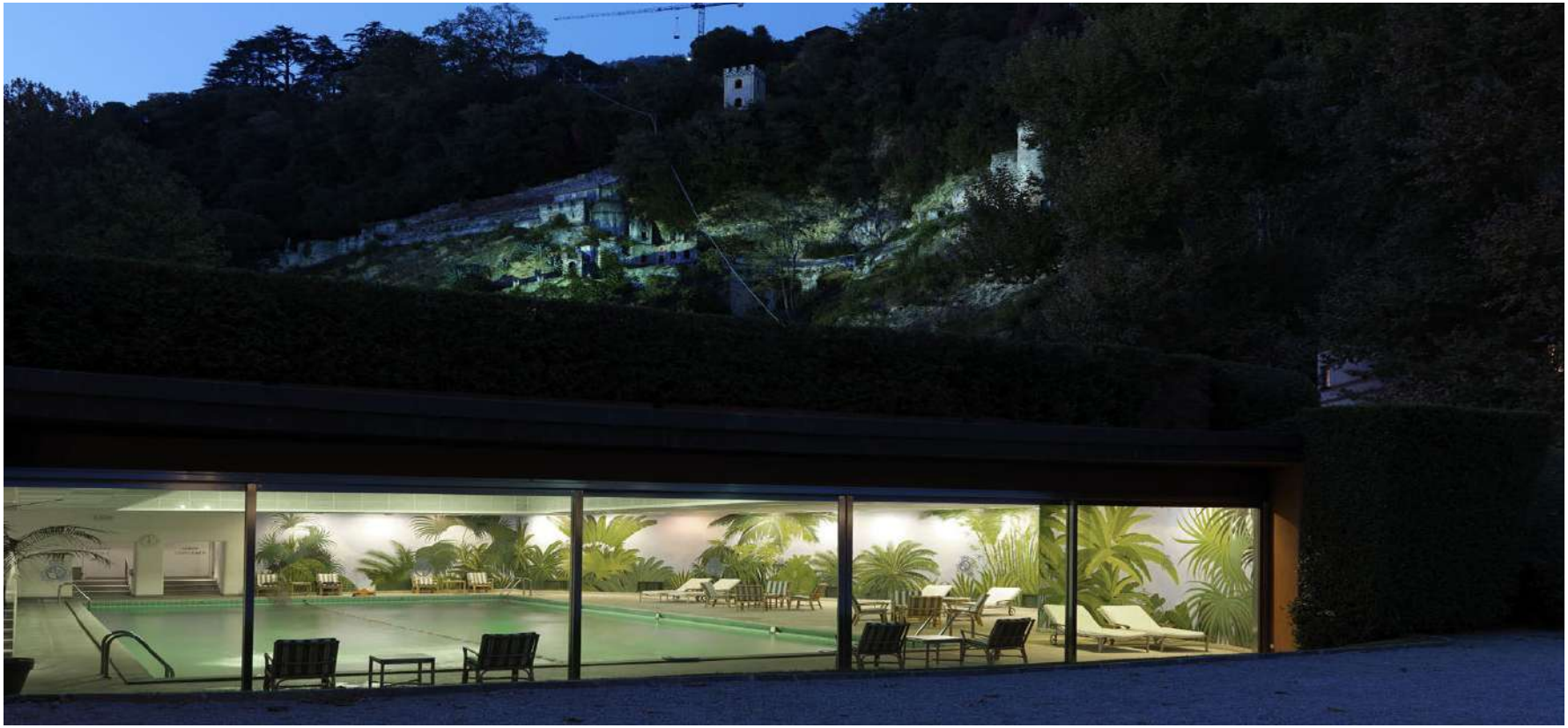
Clever light in the office

Feeling good and coming up with new ideas

Clever light in healthcare spaces

Well-being and shorter recovery times

Suitable Clever light contests: hotels, restaurants, spa, gym, offices, school, clinics,, hospitals

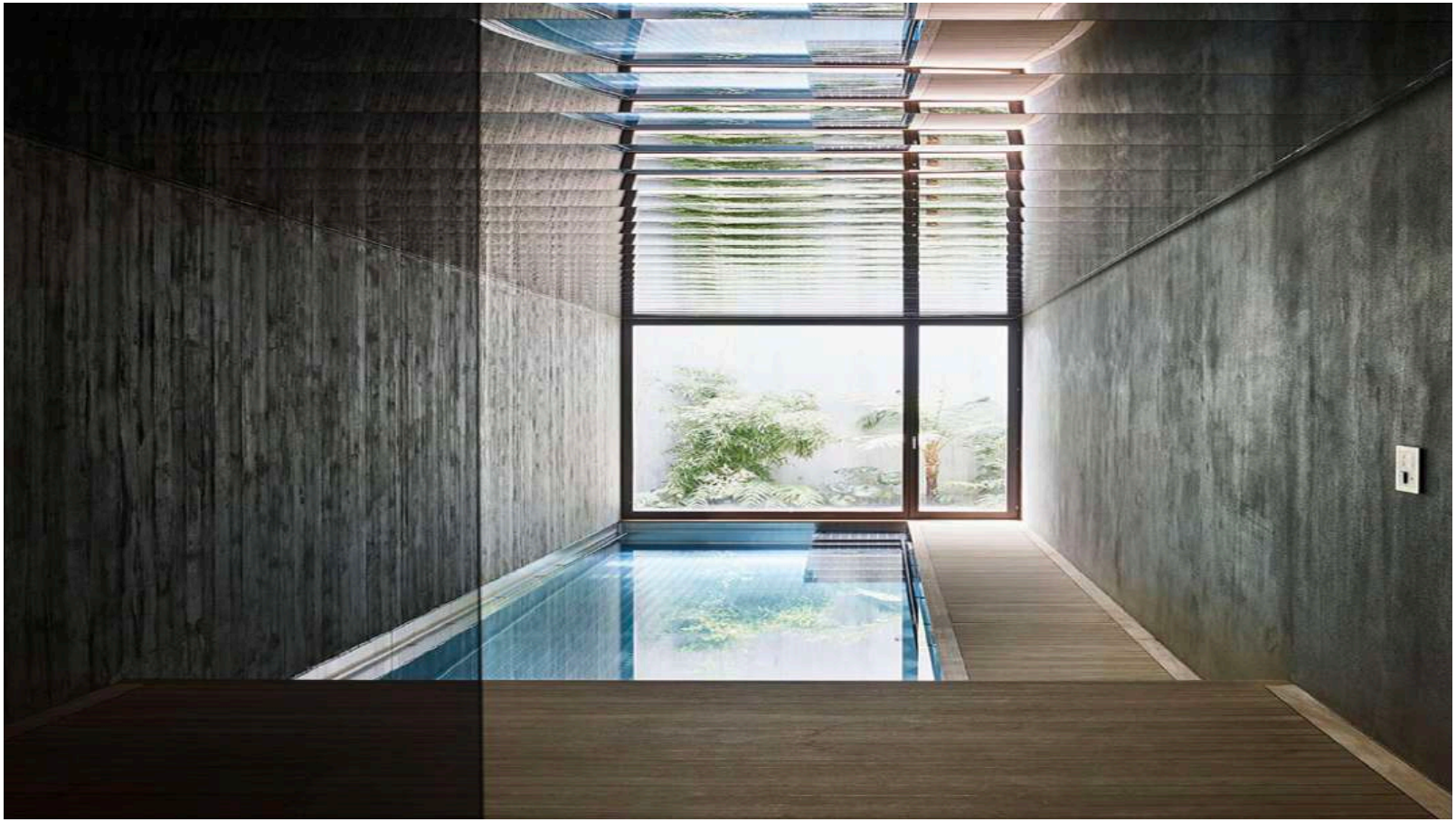


BEAUTY

COESIONE ITALIA 21-27 LOMBARDIA

Cofinanziato dall'Unione europea

Regione Lombardia



COESIONE ITALIA 21-27 LOMBARDIA

Cofinanziato dall'Unione europea

Regione Lombardia

COESIONE ITALIA 21-27 LOMBARDIA

Cofinanziato dall'Unione europea

Regione Lombardia

COESIONE ITALIA 21-27
LOMBARDIA
Cofinanziato dall'Unione europea
Regione Lombardia

Ph. Pietro Savorelli

RICERCA

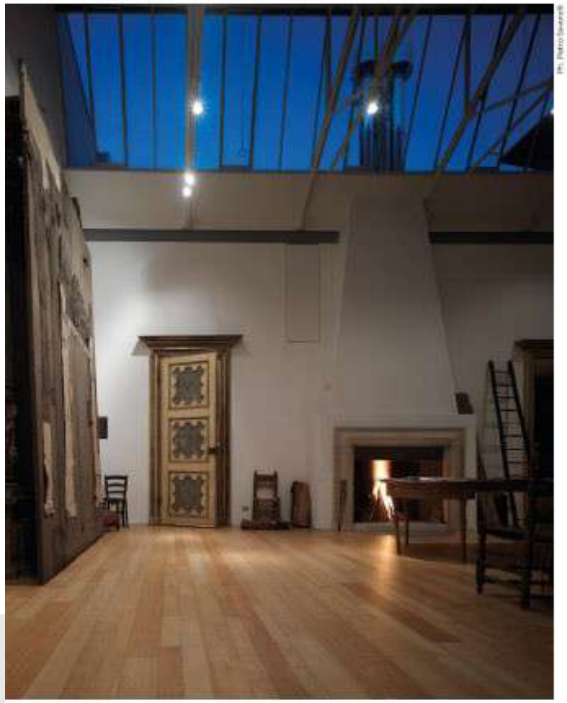
La vita e la qualità della luce al centro del progetto

Abbiamo chiesto a Marco Pollice cosa vuole dire mettere la qualità della luce al centro del progetto con nuove "caratteristiche di qualità", da un punto di vista ergonomico, psicologico, biologico

di / by Marco Pollice*

*Pollice Illuminazione

La progettazione è un discorso sulla qualità della luce, sull'equilibrio e la relazione tra persone, cose e ambiente, è conoscere scientificamente la realtà da illuminare, individuando e calcolando i nessi che sussistono tra gli eventi e trovare il filo conduttore della comunicazione tra segno, oggetto e interpretante.
Si tratta infatti di un movimento che è un cambiamento etico e culturale frutto di tanti anni di studi applicati alla correlazione tra luce e salute. È la prospettiva rivoluzionaria, da cui la medicina e la progettazione illuminotecnica osservano: la prospettiva della qualità della vita.
Progettare la luce significa sviluppare sistemi in grado di prendersi cura, ora dopo ora, di collocare l'essere umano in un luogo salutare. È mettere la vita al centro del progetto e sviluppare nuove "caratteristiche di qualità", dove precisi parametri quantitativi e qualitativi dovranno essere rispettati e le soluzioni per garantire la luce giusta saranno da valutare a partire da un punto di vista ergonomico, psicologico, biologico e individuale.
La luce ha effetti diversi che agiscono sulle persone in ogni momento – visivi, emozionali e biologici – che vengono sia riconosciuti in maniera consapevole ma, cosa molto importante, sono anche vissuti inconsciamente. Gli effetti però, possono essere regolati da un sistema intelligente e possiamo prevenire disturbi, supportare stati emotivi ed incoraggiare processi cognitivi.
È a partire da questi effetti che dobbiamo o dovremmo concentrarci a lavorare sullo stimolo, per controllare la luce in ogni momento della giornata e della notte; in particolar modo focalizzando l'attenzione su alcune lunghezze d'onda dello spettro, inducendo quando necessaria, l'inibizione della produzione di melatonina (il neurotrasmettitore che controlla il ritmo sonno–veglia) per consentire l'equilibrio dei ritmi circadiani ed il corretto funzionamento del nostro orologio biologico.
In questa ricerca, che dovrebbe essere collettiva, anche con scambio di opinioni, documenti, dati, anche noi stiamo procedendo con attenzione secondo il fare degli scettici antichi, ci poniamo domande, insinuiamo dubbi, osserviamo il mondo in cui viviamo e ascoltiamo le esigenze diversificate delle persone, o utenti.
La percezione della luce è infatti estremamente soggettiva e come ci ha suggerito per molti anni l'indimenticabile studioso Mario Bonomo va pianificata in anticipo, considerata non solo riferita ai luoghi e alle attività svolte, ma anche al differente bisogno di luce a seconda dell'età, come negli anziani e nei bambini, o al movimento che ciascuno ha nello spazio.
Abbiamo pensato ad una luce che mirasse ad adattarsi alle necessità di chi la vive e che integrasse nel sistema la migliore interazione possibile tra luce naturale e luce artificiale.
Poiché l'impatto dell'illuminazione è considerato da un punto di vista onnicomprensivo, fondamentale per una ottimizzazione dell'efficienza energetica e per assicurare un effetto a lunga durata sul benessere e sulla salute, è necessario, e lo è stato per noi con il sistema CleverLight, un approccio olistico armonico e di visione spaziale.
Anche elementi come le dimensioni e l'orientamento di finestre e vetrate, la presenza di superfici e materiali con loro caratteristiche quali riflessione e trasmissione della luce, contribuiscono infatti, all'analisi complessiva della ricerca, in un'ottica di lettura semiatica poi, essi rappresentano veri e propri segni che ci informano sulla relazione d'equilibrio tra le cose.
Il calcolo della giusta luce al momento giusto è basato inoltre, sulla latitudine e l'orientamento dell'edificio rispetto al giorno e al mese dell'anno in cui ci troviamo.
Nella progettazione sono necessari e da tener ben presenti anche gli aspetti illuminotecnici legati a modelli temporali e spaziali, come la relazione tra i tempi e la durata dell'esposizione a uno stimolo luminoso, la distribuzione spaziale della luce, il livello di luce e la distribuzione dello spettro per la gestione della qualità del colore.
Osservando ciò che ci circonda, abbiamo poi notato che il mondo è incredibilmente colorato. Per questo abbiamo coinvolto esperti del colore ad indicarci linee e direzioni.
Inoltre, l'analisi del modo di riflettersi sull'acqua, del sole, della luna e delle stelle, rileva che il colore genera benefici al nostro organismo così come accade per metalli e pietre quali oro e argento, brillanti e cristalli, la cui riflessività produce prismi capaci di scomporre la luce in tonalità multicolore che, rifrangendosi, dinamizzano energeticamente l'ambiente.
Soprattutto dobbiamo credere all'innovazione come impegno e dove la cultura, la salute, la sostenibilità, la transizione ecologica sono i tanti volti di uno sviluppo che non può prescindere dalle persone, e fare buona luce presto, lo confidiamo, diventerà consuetudine normale, ma da costruire con talento, impegno e passione.



Ph. Pietro Savorelli

COESIONE ITALIA 21-27
LOMBARDIA
Cofinanziato dall'Unione europea
Regione Lombardia

Life and quality of light at the centre of design

We asked Marco Pollice what it means to put quality of light at the centre of design, with new "quality features", from an ergonomic, psychological and biological point of view

Design is a question of quality of light along with the balance and relationship between people, things and environment; it is about knowing the reality to be illuminated in every aspect, in a scientific manner, identifying and calculating the links that exist between the events and finding the common thread of communication between the sign, object and interpretant.
It is in fact a *movement*, which is an ethical and cultural change, the result of many years of studies applied to the correlation between light and health. It is the revolutionary current point of observation of medicine and lighting design: the perspective of quality of life.
Designing light involves developing systems that can take care of human beings, hour after hour, and create healthy places to live. It means to put life at the centre of the project and think out new "quality features", where precise quantitative and qualitative parameters will have to be met and solutions for ensuring the right light will have to be evaluated from an ergonomic, psychological, biological and individual point of view.
Light has different and ongoing effects on people – visual, emotional and biological ones, which are not only consciously recognised but also experienced unconsciously, and this plays a crucial role. However, the effects can be regulated by an intelligent system, and so we can prevent disorders, support emotional states and encourage cognitive processes.
It is on the basis of these effects that we must, or should, concentrate on working on the stimulus, to control light at all times of the day and night; in particular, by focusing our attention on certain wavelengths of the spectrum, inducing, when necessary, the inhibition of melatonin production (the neurotransmitter that controls the sleep–wake rhythm) to allow the balance of circadian rhythms and the proper functioning of our biological clock.
In this research, which is supposed to be collective, even with exchange of opinions, documents and data, we too are proceeding carefully – asking questions, raising doubts, observing the world we live in and listening to the diversified needs of people, or users– in the manner of the ancient sceptics.
In fact, the perception of light is extremely subjective, and as the unforgettable scholar Mario Bonomo suggested for many years, it must be planned in advance and considered not only referred to the places and activities performed, but also to the different needs for light depending on age, as in the elderly and children, or on each person's movement in space.
We thought of a light that could adapt to the needs of those who live it and integrate the best possible interaction between natural and artificial light into the system.
Since the impact of lighting is considered from an all-encompassing point of view, which we believe is crucial for an optimisation of energy efficiency and for ensuring a long-lasting effect on well-being and health, it was necessary to take a holistic, harmonious and spatial vision approach, and so we did with our CleverLight system.

Even elements such as the size and orientation of windows and glazing, the presence of surfaces and materials with their characteristics such as reflection and transmission of light, contribute to the overall analysis of the research; then, reading from a semiotic perspective, they represent real signs that inform us about the relationship of balance between things.
Moreover, the calculation of the right light at the right time is based on the latitude and orientation of the building with respect to the day and month of the year we are in..
In the design project, there are also lighting aspects related to temporal and spatial patterns, such as the relationship between the timing and duration of exposure to a light stimulus, the spatial distribution of light, the light level and the spectral distribution for colour quality management, which are necessary and should be kept in mind.
Observing our surroundings, we could easily notice how incredibly colourful the world is. That is why we brought in colour experts to show us lines and directions. Furthermore, the analysis of how the sun, moon and stars are reflected in the water shows us that colour is beneficial to our organism, just as it is for metals and stones such as gold and silver, diamonds and crystals, whose reflexivity produces prisms capable of breaking down light into multicoloured hues that energetically energise the environment as they refract.
First and foremost, we must believe in innovation as a commitment, where culture, health, sustainability, and ecological transition are the many faces of a development that cannot be separated from people, and, we trust, creating good light will soon become normal practice, nonetheless to be built with talent, commitment and passion.

↑
Ristorante Noy, luce integrata / Noy restaurant, integrated light.
Light project: Marco Pollice,
Arch. project: DMWInteriors

←
A sinistra e nella pagina precedente: Atelier Luca Pignatelli, luce integrata / Left and previous page: Atelier Luca Pignatelli, integrated light.
Light project: Marco Pollice

↑
Snia, sala riunioni / Snia, meeting room
Light project: Marco Pollice;
arch. project: Lucilla Malara

←
Borsa Istanbul, cielo artificiale / Istanbul Stock Exchange, artificial sky
Light project: Marco Pollice

COESIONE ITALIA 21-27 LOMBARDIA
Cofinanziato dall'Unione europea
Regione Lombardia

Thanks to the highly innovative features of the Clever light project in the field of Human Centric Lighting HCL development, scientific research, and technology, the project is supported with resources from the European Union, the Italian State, and the Lombardy Region, in accordance with Regulation (EU) 2021/1060, Articles 46, 47, 50, and annex IX.

COESIONE ITALIA 21-27 LOMBARDIA

Cofinanziato dall'Unione europea

Regione Lombardia

https://www.polliceilluminazione.it/clever-light/

@polliceilluminazione

Via Giovanni Rasori, 12, Milan, Italy 20145