SIMES

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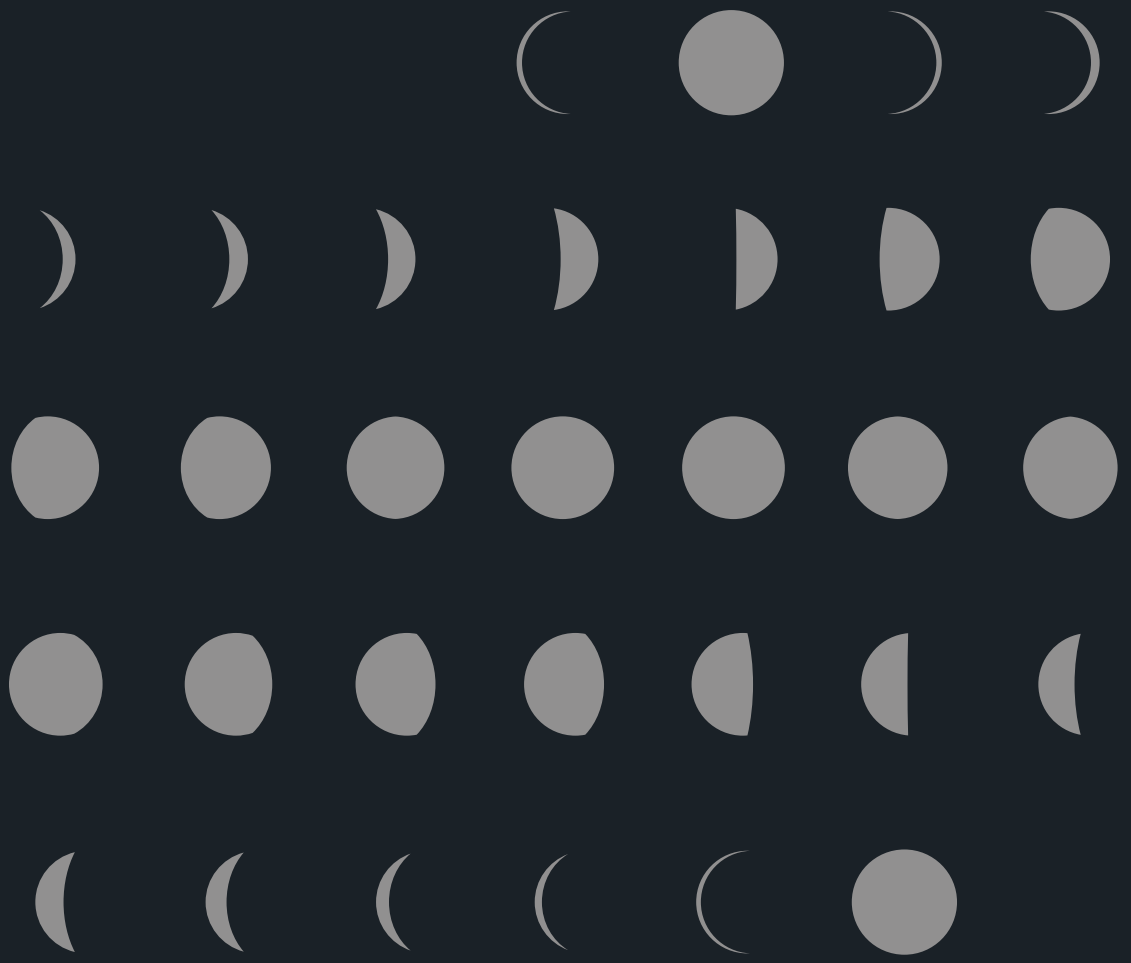


"Eco-centric design for a new culture of light"

SIMES

Lighting control, flexibility, comfort and sustainability are the key themes around which Simes foresees the lighting of the future.
When the advent of LEDs turned the lighting world upside down, we could not have imagined that electronics and the potential to control light would pave the way for a new revolution.
Digitalisation, combined to an ever-incresing care for the environment, is bringing a much-needed awareness and a shift from a human-centric to an eco-centric approach.
Even in the world of lighting, limiting our impact on the planet and managing resources effectively and responsibly is becoming a priority.
Dimming, the use of sensors and programmed flux reduction are some of the ways in which new technologies allow us to reduce consumption and provide light only when and where it is needed.
Avoiding light dispersion, especially towards the sky, becomes the focus point of a shared and collective design aimed at reducing light pollution of the night sky.
The use of comfort optics to avoid visual disturbance and glare and the development of tunable white solutions are the result of a culture rooted in the concept of personal well-being and respect for biological rhythms.
With the first edition of Simes MAG, we created a new alphabet inspired by the concept of the Point and Line to Plane, to encourage the use of new forms of writing space through light.
In this second issue we want to project ourselves into the future and talk about an increasingly present and necessary culture where light, in addition to fulfilling specific functions, now plays an important social role.

THE PARK AT NIGHT

“Eco-centric design for a new culture of light”

Light, the main trigger of life on our planet, has accompanied the evolution of mankind since its origins, revolutionising cultural, social, artistic and scientific aspects.
Around fire, the first true form of controlled light, mankind formed the first communities, learnt to cook, to pass on values and traditions; to experience the unknown as a continuous source of discovery.
Architecture, literature, visual arts, science have all been influenced by this incredible instrument of knowledge and, at the same time, we have shaped our cities on the ability to control light that technology has now made possible.
All this has led us to a paradox: we have turned night into day, altering the natural balance that has made our long evolutionary journey possible to the detriment of the ecosystem in which we live. What possible future?
We need a new approach, a new culture of light to rethink our habits in order to mitigate the anthropic impact that is now out of control. It is time to start a new journey.

Fire and rock art.
Thanks to the discovery of fire, the first source of light, man can extend the hours of life and sediment his own identity by using painted images as a narrative tool.

Lunar phase

The study of our natural satellite and its phases opened the door to understanding our solar system.

Film “Metropolis”, Fritz Lang, 1927

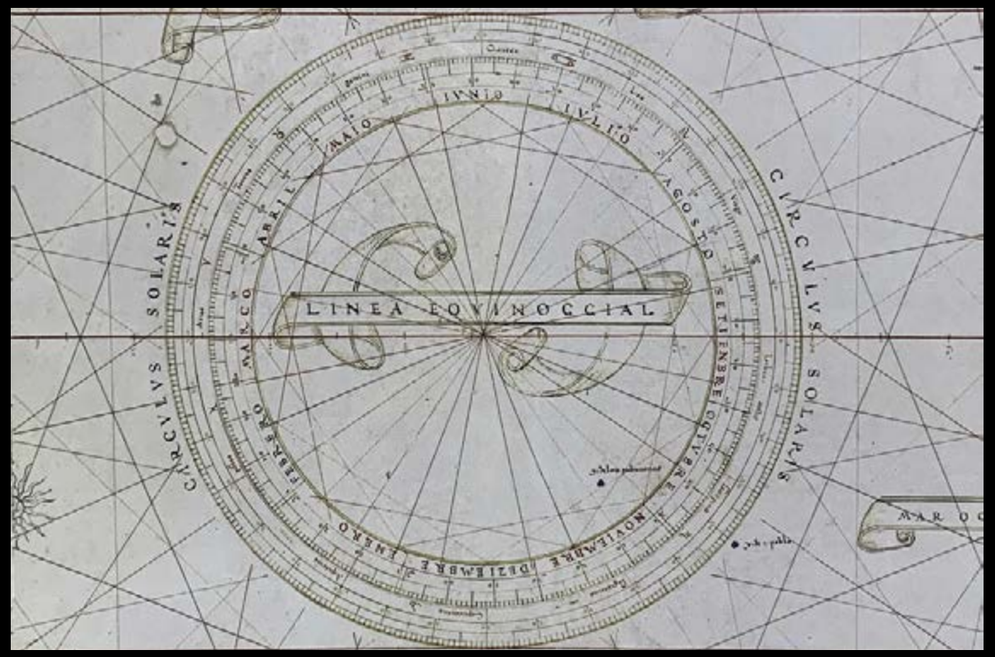
The foreshadowing of the future world of industry and work is represented through the magic of artificial light.

Pole star

Stargazing is the primary orientation tool for large-scale navigation on the sea.

Planisfero Castiglioni, Diego Ribeiro di Siviglia, 1525

The nautical chart of the known world visually documents the theories on the sphericity of the earth.

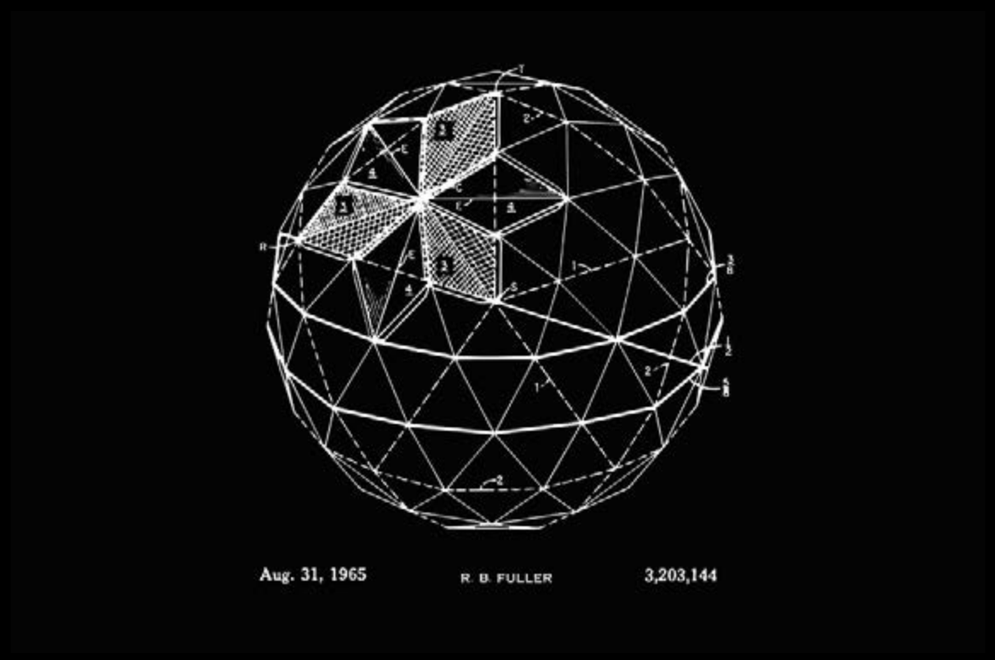


Phanteon, Agrippa, 27 b.C.

The Phanteon's oculus was designed to mark the seasons and illuminate the emperor's entrance at a precise time of the year.

Geodetic Dome, Buckminster Fuller, 1955

The architectural relationship with light is realised with the design of the first geodesic dome.



The Weather project, Olafur Eliasson, 2003

Light becomes an artwork, sublimating its archetypal meaning.

Light painting, Pablo Picasso, 1949-1955

Fascinated by this new photographic technique, the artist used light to "paint" in the dark.

Skyglow

07
Excellent
Dark Sky site

06
Dark sky
Site

05
Rural
Sky

04
Suburban / Rural
Transition

03
Suburban
Sky

02
Bright Suburban
Site

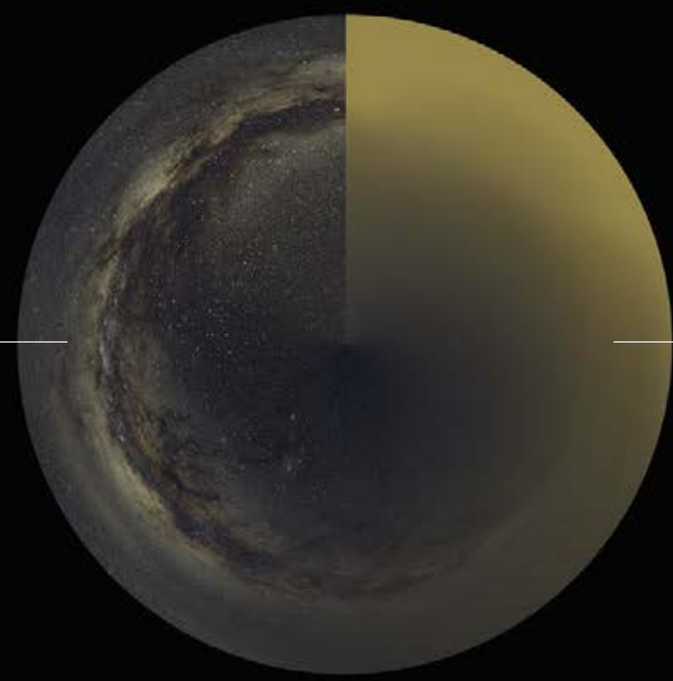
01
City / Suburbia
Transition

00
City / Inner
City Sky

Infographic illustrating the impact of light pollution on our ability to see stars and other objects in the night sky (Image: NOIRLab/NSF/ AURA, P. Marenfeld)

NATURAL

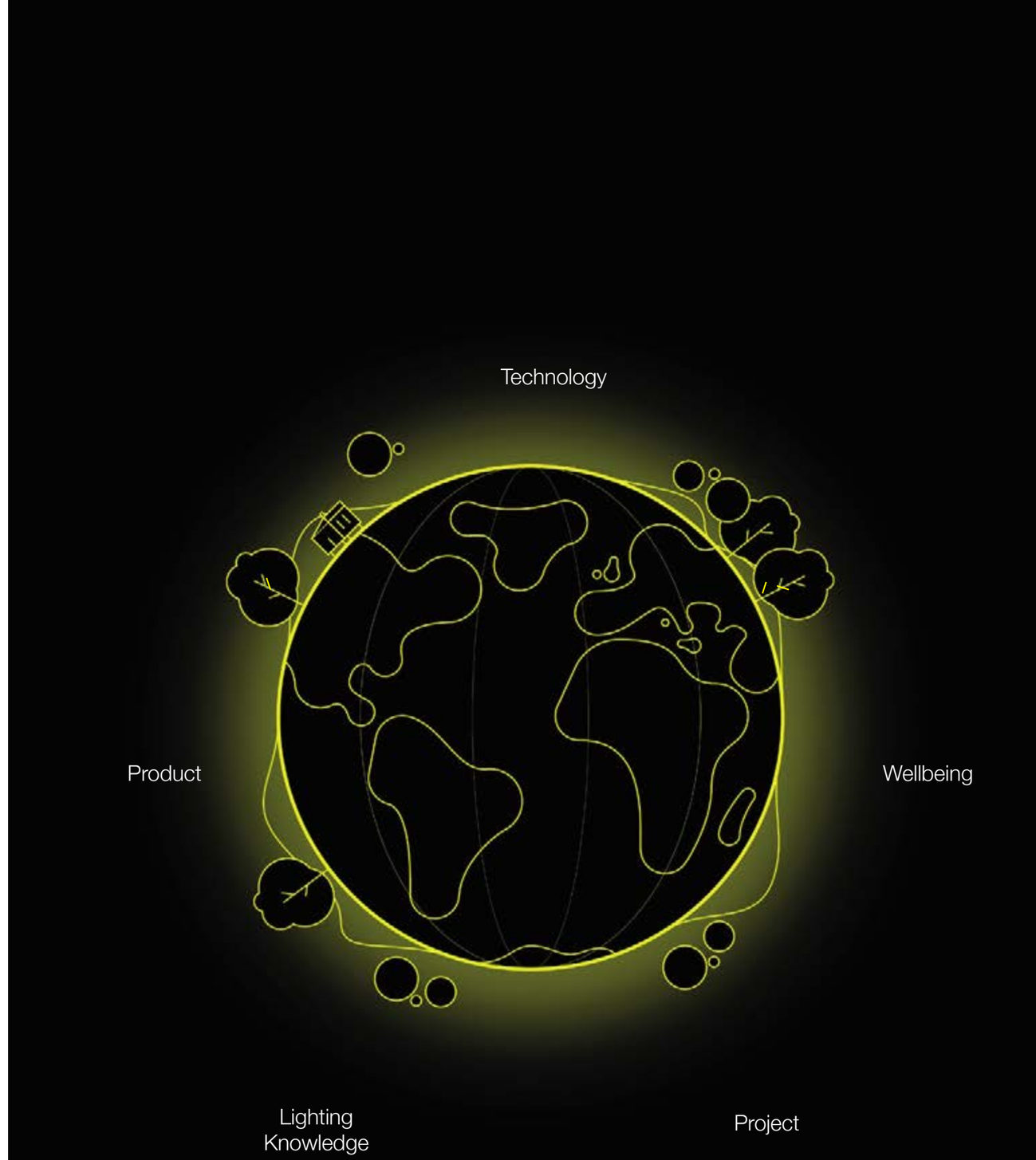
ANTHROPOCENE



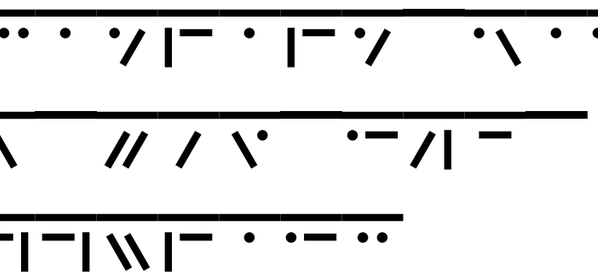
The spherical representation of the Skyglow phenomenon clearly highlights the extension of man's anthropic impact on the celestial sphere.

Editorial

In his 1971 text “Designing for the Real World”, the designer Viktor Papanek calls for inclusiveness, social justice and sustainability, issues that have become indispensable to planning in the fields of design, architecture and urbanism.
Design is not only a mean to shape something, but a tool for transformation, for investigation that must take into account and respect social, ethical and ecological points of view. The role of the designer is therefore also a social one, a mediator capable of guiding choices towards sensitive and responsible design, in order to influence his interlocutors or possible decision-makers to initiate changes towards virtuous paths.
Designing for and with light does not shy away from this responsibility, and today, more than ever, the approach of eco-centric and eco-systemic design has become central to meeting the challenges that await us in rebalancing a planet sorely tested by the impact of human activity.
In a short space of time, humans have come to inhabit a tiny part of the earth, the cities. We now know that they have a major role to play in shaping the future of our planet, as they are responsible for 75% of CO2 emissions and are now home to more than 54% of the world’s population. An urban dimension that has lost contact with the countryside, which over time has accumulated excesses and bad habits, and which continues to disrupt, if not destroy, the balance that nature has always maintained in all its expressions.
A multidisciplinary approach, collaboration and synergy between companies, designers, researchers and universities at an international level are therefore becoming central. Sharing and participatory design now make it possible to imagine and realise visions that were previously considered impossible. What Bruno Munari simply defined as “everything that was not there before”, we could define as “dreams”. Actions that are no longer singular but plural, capable of looking at development models in order to innovate according to the canons of global sustainability.
Light is a vital trigger, well-being, an indispensable element of our lives, as well as a fundamental component for the entire ecosystem of the planet. We are reminded of this in these pages by Kerem Asfuroglu, lighting designer, who tells us how designing light for dark skies is now a priority for large and small communities, in order to restore the balance between our increasingly densely populated urban areas and the environment.
Circadian rhythms have always shaped the evolution of life on our planet. Thinking of architecture as a symbiotic element in the relationship between man and nature is the key to making our “living space” sustainable. The architect Giovanni Traverso, co-founder of Traverso-Vighy, shows us how it is possible to design reversible architecture, based on natural light in dialogue with artificial light, to create well-being and balance in living spaces.
In today’s scenario, where it is necessary to define design methods capable of guiding us towards long-term strategies, the field of research and development becomes a fundamental pillar for a company like SIMES, which has always made the “dream of light” its guiding principle. The words of the R&D team illustrate how hardware and software technology are revolutionising the way we design light, and how multidisciplinarity is an essential value for new challenges and the fulfilment of a dream.

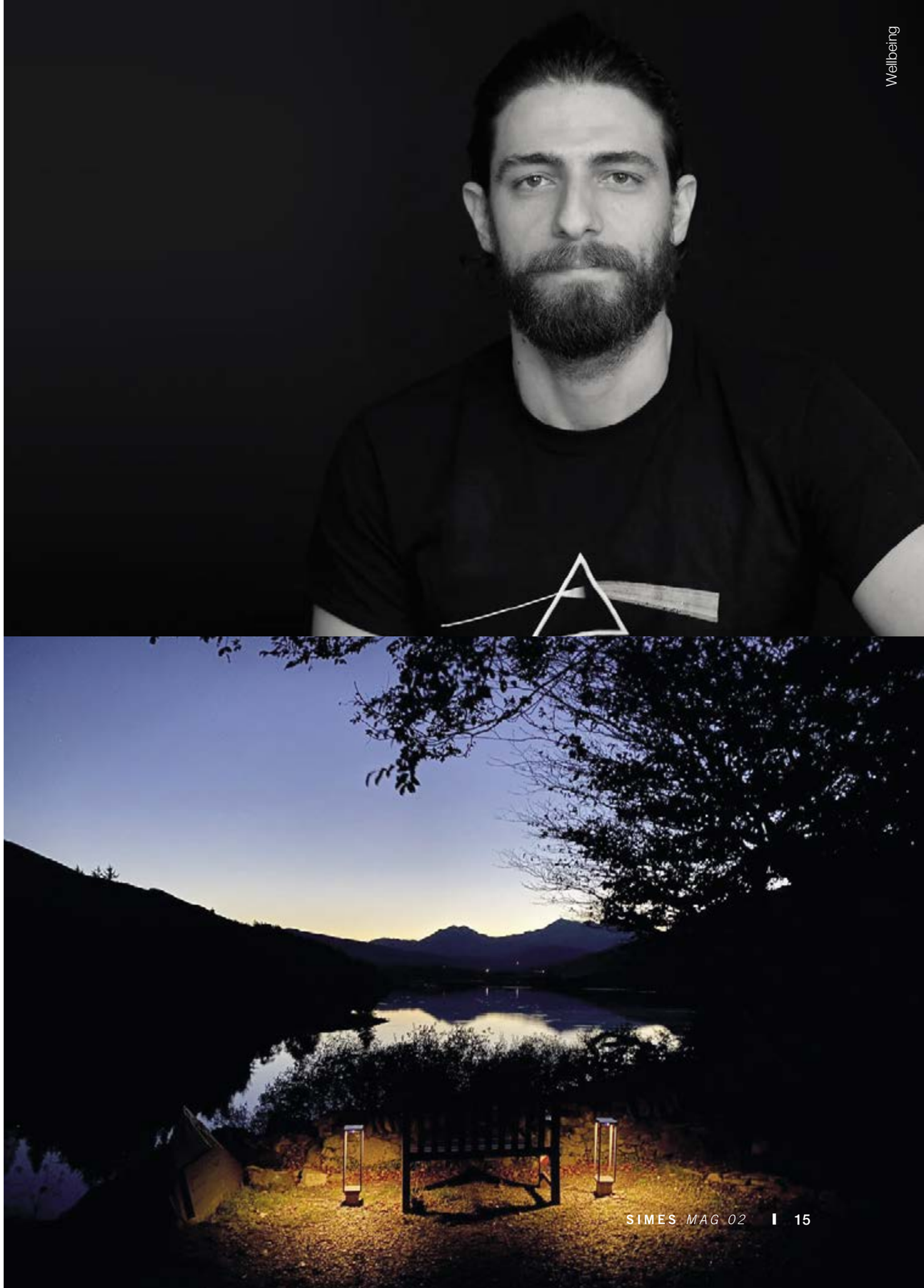


Designing with and for the community



Observing the starry sky is almost impossible in today's urban areas, large or small. We have slowly turned night into day. We therefore need to look at light design with an eco-systemic and ethical approach, as a social tool to engage communities and reduce our impact on the planet, recovering something important that we have lost: the stars.

Interview with Kerem Asfuroglu, lighting designer, graphic artist and founder of Dark Source London, UK - Wexford IE



Where did the Dark Sky movement come from, what does Dark Sky represent to you and what led you to investigate this field?

K.A. Dark sky has always been there; we just hid it under many layers of light and forgot about it. Although it's much more diverse now, astronomers were probably the first group to bring attention to the growing problem of light pollution. The idea behind the Dark Sky movement is to scratch away the paint in order to get back to the original canvas – the natural night. It represents quiet skies and landscapes, not just the view of the stars. This movement advocates the protection of our oldest heritage, the true night that our ancestors experienced until very recently.

The advent of lighting helped us to tame the night, which for much of our existence has not always been a friendly environment for us humans. But now we are in the Anthropocene. At no time in our history have we produced and consumed more light than we do today. As a result, light pollution is increasing at an alarming rate, affecting our health, nocturnal biodiversity and the environment, and changing our perception of the night, not just the night sky.

Now that we have a clear understanding of the adverse effects of light pollution, if we don't do something about it, we would be actively choosing to be a part of the problem. As a lighting designer, it was important to me that our profession remains relevant to the times we live in and addresses these issues as we play a significant role in influencing how light is used and perceived. Light pollution is not only an environmental issue, it is also a cultural problem.

How did the Dark Sky movement start?

K.A. The Dark Sky movement began with astronomers showing great interest as light pollution blocked our view of the stars, distant galaxies, and planets, hindering our understanding of the cosmos and the universe. The movement has gained great importance in recent years, mainly because these views got aligned with the concerns from environmental protection and biodiversity conservation groups as we have become increasingly aware of the adverse effects of light pollution on plants, insects, and pollinators. The decline in insect population is heavily related to artificial light at night. The more we understood the impact of Artificial Light at Night, the more these groups got united under the Dark Skies or the "Anti-Light Pollution" movement.

Light pollution has never been worse in our history, but we have also never been better equipped to tackle light pollution as we are now. We know its impact and how it can be eliminated so we have no excuse not to act on it. One interesting thing about light pollution is that, of all types of pollution, it is the probably the easiest to rectify – you just turn it off, and it's gone. Unfortunately, you cannot do that with other types of pollution.

Designing light for darkness. It may seem like a contradiction. What are the basic principles that guide your design and how much do the context influence it?

K.A. There is certainly a contradiction in designing light in order to curate darkness. Darkness is a big word, and there's a big spectrum between a well-lit space and pitch-black darkness. What we try to do in every project is to find reductions across the board and still deliver a visually-intriguing image after dark. However, we are not only driven by visual aesthetics, the final visual output is the outcome of our uncompromising environmental approach. This is about using light as judiciously and conservatively as possible to achieve maximum impact and significant CO2 and light pollution reduction targets.

Space plays a very important role in determining the degree of customisation of the design, and in determining what aspect of the "dark canvas" we choose to show or remove. Geographical location (latitude) and the nature of the environment are also fundamental. Whether it's a rural or urban reality suggests how bright is too bright and how dark is too dark. Even the terms we use for communicating light such as "brightness" and "darkness" can be highly subjective from both cultural and individual perspective.

The basic principles to tackle light pollution can be summarised as "use the right light, at the right time, in the right place." In a nutshell, this means using warm colour temperature, angling it downwards, not letting light to escape above the horizon line, dimming it down or switching off when you don't need it.

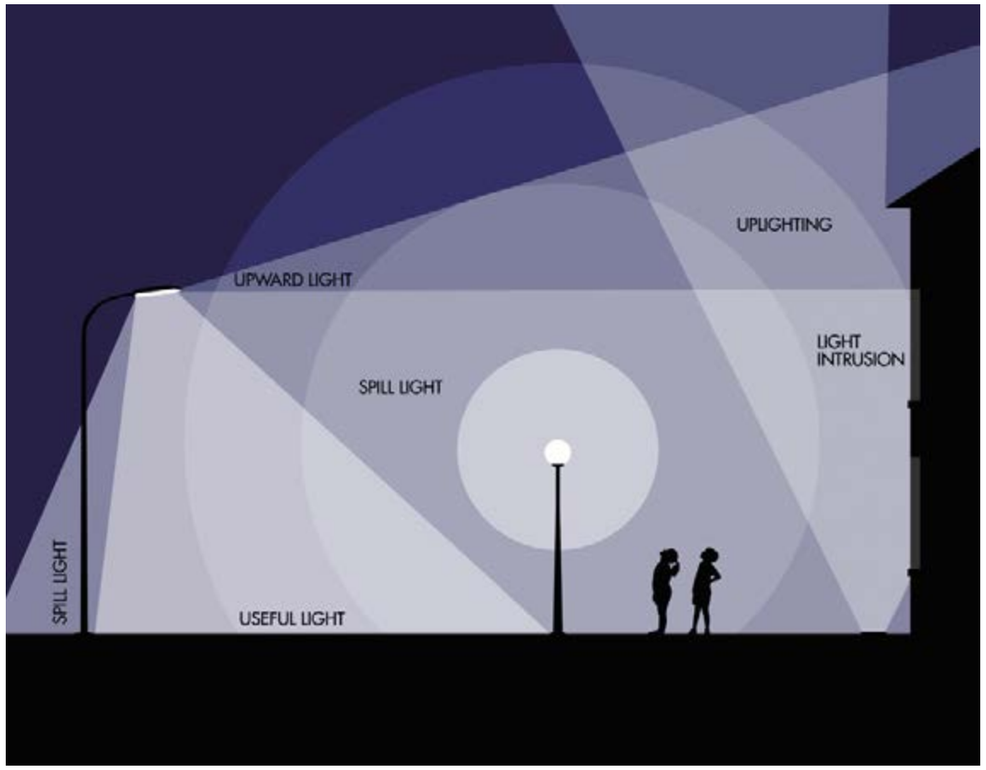
If we are in a lit context where the light can be borrowed from the surroundings, we try to use it to our advantage by introducing as minimal light as possible. On the other hand, when we're working with pitch-black darkness, the light has to be used in a very measured way so that we don't affect the environment and the original nature of the nightscape in that area and beyond.

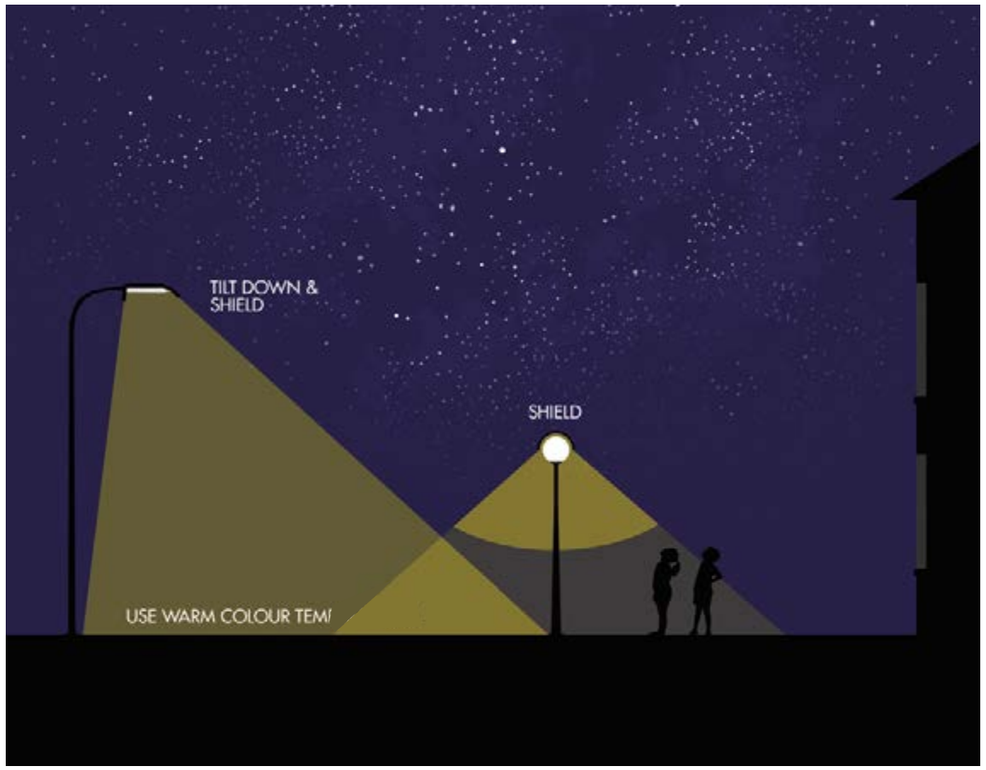
Rural areas and small communities VS big cities and authorities? Who can influence whom? Where can the change to design in a different way with a different approach start?

K.A. There are indeed big differences between small and large communities, such as cities and towns. Whether it's a rural town or an urban city, the success and momentum of the project often rely on the local community which then grows into something much bigger. We have been fortunate enough to work with a wide range of communities with different strengths and weaknesses, and what we have found is that there is no "one size fits all". However, we need to recognise the achievements of the small communities which are often overlooked. Big change begins with small steps. The growing popularity of this movement owes a lot to small or rural communities as they have brought so much attention to this movement by putting up a big fight to protect their natural resource of dark skies. This has influenced larger commercial developments to consider dark skies as a unique selling point from the outset, rather

83% of the earth's population lives under heavily polluted skies that prevent them from seeing the night sky.

Night map of Tokyo city





"The idea behind the Dark Skies movement is scratching the paint in order to get back to the original canvas – the natural night. It represents quiet skies and landscapes, not only the view of the stars.
This movement advocates the protection of our oldest heritage, the true night which our ancestors had been experiencing until very recently."

Kerem Asfuroglu

than as an afterthought. However, the ultimate success of this movement will be defined by the fate of the big cities. Much work still needs to be done to demonstrate that urban areas can also be equipped with environmentally friendly lighting. While rural communities are more accustomed to darkness, it can still be intimidating concept for the city dwellers. Maybe demonstrating successful applications of less light would be an appropriate approach for the cities to start with.

Is it easier to work with small communities or big cities?

K.A. Both are fun. We have found that the more you involve people, organisations and authorities in the design and decision-making process, the more they become influential stakeholders who ensure the longevity of the project. Because of my experience in community work, I really enjoy achieving something meaningful through a collective grassroots approach - from the bottom up. When you create a Dark Sky project, you need to make sure it lasts and you can only do that if people feel that they are part of the process. It should be their making, not something imposed on them or decided for them behind closed doors. The Dark Sky movement relies heavily on collaboration at all levels.

Small communities can be agile and fast when they set their minds to a goal. Larger authorities and municipalities need more time because they have to deal with more bureaucracy due to the large number of stakeholders. However, large authorities can set long-term goals and develop highly ambitious projects that can have a significant impact. There are certainly pros and cons to both sides and the two spheres are not completely separate. For example, we worked closely with the community of Presteigne and Norton to create the first Dark Sky Community in Wales. The lighting improvement project was a great success because it had the full support of the local and the County Council. This prompted Powys County Council to consider rolling similar schemes out across the county, thereby empowering many other communities to pursue dark skies accreditation if they so choose. The Presteigne dark skies plan exemplifies how a small community might be bestowed with an agency and platform to transform their nocturnal environment, yet strikingly, it has had a far more extensive impact across Wales, an outcome that was entirely unanticipated.

Speaking of stakeholders and projects, can you give us a specific project that illustrates this alternative perspective for on eco-centric lighting design?

K.A. One of my favourite projects is the Newport Dark Sky masterplan which is located on the west coast of Ireland in County Mayo. The project was commissioned with the aim of eliminating the light pollution, a growing concern for the region due to the town's proximity to Mayo Dark Sky Park which is home to a rich but sensitive nocturnal biodiversity. Working closely with the local community, an architectural lighting design proposal was developed that would continue to celebrate the church building but avoid light pollution whilst enhancing the night-time experience for both people and biodiversity.

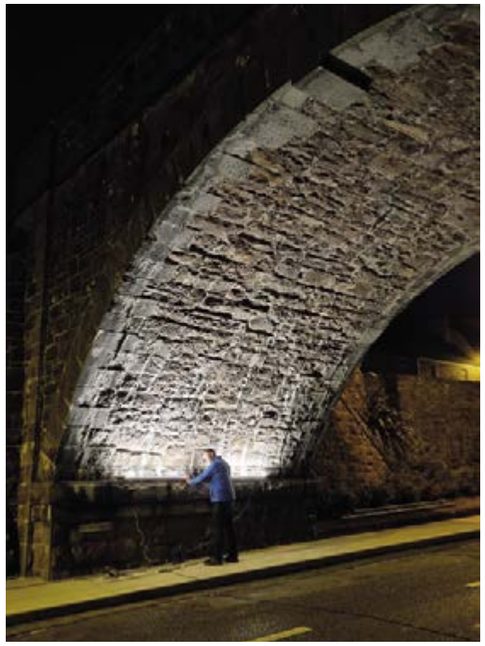
St Patrick's Church is located in Newport, and is a small town with a big ambition to become the first Dark Sky Community in Ireland. The local community sought a design solution to tackle light pollution caused by the town's revered landmark architecture. The project aims to demonstrate how the judicious use of light can eliminate light pollution and protect the environment while creating a strong night-time image. This empowering project illustrates the effectiveness of small but organised communities in taking environmental action despite the lack of resources.

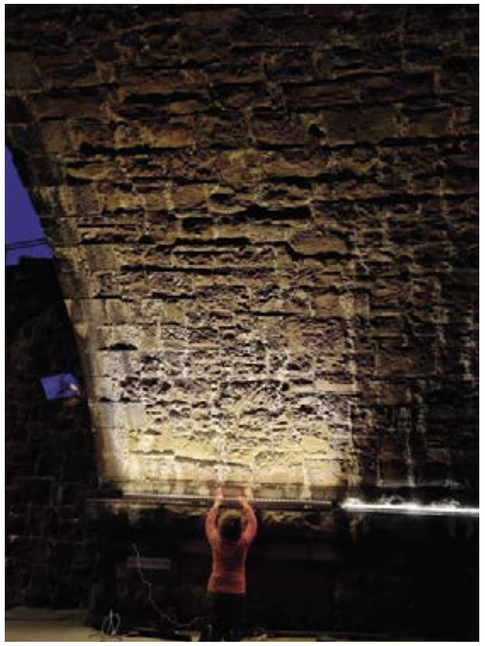
Community involvement was an important part of the design development, with activities ranging from participation in the lighting tests to the installation of light shields on site. Local opinion was vigorously sought through several public consultations to ensure that the lighting design struck a healthy balance between the needs of the people and the biodiversity.

The project advocates the visual and physical manifestation of an environmental ethos through the considerate use of light on a publicly respected architecture as a communication platform. The project challenges the conventional wisdom that architecture needs to be fully lit to show its purpose or communicate its value. It reverses the relationship between light and dark by highlighting the carefully selected features of the architecture, while leaving unlit surfaces in abundance to provide a confident canvas and strong outline of the building against the night sky. Up-lighting is only used where light spill can be contained within architectural features such as niches and recesses. Back-lighting of the windows on the front façade adds visual interest by revealing the design of the arched windows and the colourful stained glass. All other windows borrow light from the interior lighting as they are not actively lit. The ability to view the warmly lit windows from different angles throughout the project was intended to create a homely and welcoming glow while the church is open to visitors.

The previous lighting scheme solely focused on emphasising the verticality of the architecture through excessive floodlighting whilst the new lighting aimed to restructure this hierarchy by balancing the vertical and the horizontal experience. As a result, the church grounds were treated as an extension of the façade lighting to encourage social activity after dark. This transformed the church's night-time role from being an object of interest to a destination worth visiting both for the locals and visitors.

The new lighting scheme, which has resulted in a reduction of 2 tonnes of CO_2e per year (including the re-lamping of the interior), aims to demonstrate that even a façade lighting project can create a strong night-time image through the judicious use of light. 2200K CCT (warm white) has been used throughout to minimise the environmental impact whilst providing a consistently warm and





Lighting trials in the community of Newport, Ireland.
Design: Kerem Asfuroglu

Graphic illustration of the lighting masterplan for the city of Newport.
Design: Kerem Asfuroglu

Graphical simulations of intervention areas.
Design: Kerem Asfuroglu

welcoming feel to the built environment. As a result of the improvement, it is estimated that light pollution in the city has been reduced by 40%.

Projects like this, how much time do they take from start to finish?

K.A. In general, it takes a while to get there. For example, it took us five years to set up the first Dark Sky Community in Wales. Even with the best of intentions, it's a process that takes time to reach its full potential. Rushing into it before strong support and a roadmap are in place can cause problems down the line. The Newport Dark Sky Masterplan actually started before we became involved. We've been working on it for the last three years with the ambition to bring the community's vision to life. Projects of this scale take time because the design is not the first stage. Design is the final manifestation and outcome of all the conversations, interactions and public consultations you carry out. It has to tick all the boxes, not just of what works best for the architecture, but also for your environmental objectives and people's expectations. Rather than designers, we often act as communicators or diplomats, always trying to find the perfect balance between the interests of all stakeholders. It took us two years to complete the first phase of Newport, and I imagine it will take another two to three years to complete the whole project. Quality takes time.

What role can lighting companies play in raising awareness in communities? How can they empower people to be active agents of change?

K.A. It's clear that the individuals and companies can play a big role in reducing light pollution. The tools we use as designers, the lighting fixtures we specify and the manufacturers we work with really define what we can deliver. Dark Sky is a growing trend but not yet a mega-development sphere yet, so the budgets can be tight but the goals are always ambitious which is a professional challenge. There is a clear demand for dark sky-friendly luminaires with full cut-off, warm colour temperature, and adaptive controls, like dimming and presence detection. I think lighting design will continue to evolve as we find better ways to work with less. Finding creative ways to avoid wasting light and materials is already part of the sustainable design trend and culture, whether it's related to Dark Skies or not. We already have to change the way we do things to make sure we are environmentally responsible. So there's a lot of scope for companies to get involved in this movement, see the potential and adapt their approach.
I think a lot can be achieved if a Dark Sky Friendly approach is designed from the start, not as an afterthought. We have a lot to learn from each other. There's a lot of power in individuals and I think we're seeing more and more that it's about bringing together the right people, the right mindset, and the right companies which share the same values together. My experience with different communities has enriched my professional vision. I then bring this knowledge to other communities, which is a form of cross-pollination. I learn as much from the communities I work with as they learn from me. It's the nature of grassroots community work that really nourishes us. If you take care of the people, the people will take care of you.

Now let us move on to a more conceptual and abstract question. What does light mean to you?

K.A. Light is a great source of inspiration for me. It is rays, it is waves and it is photons travelling at 300,000km per second. Light is information and we process it incredibly quickly because we are designed to receive 80% of our information visually, so it plays a very important role in our lives. For me, light is the balance between brightness and darkness. Think of it like this: if light and dark were to overpower each other, you wouldn't be able to see. The visual experience is one of balance. I'm still growing as a student of light and dark. Perhaps you should ask me again in five years' time.

Sight is one of our main senses, but if we were to perceive light through the sense of hearing, what kind of music would it be for you?

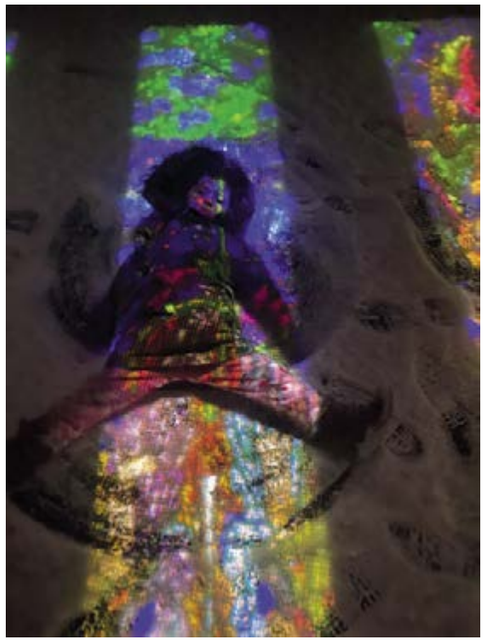
K.A. That's difficult because I have a very eclectic taste in music. One day it might be classical, the next day rock and the third day electronic. I think it is pretty much the same with light. You never consume the same media over the years; you are always evolving and changing. My understanding of light, the culture around it and our interaction with it is constantly changing. Light is a rich harmony that can manifest itself in any kind of music.

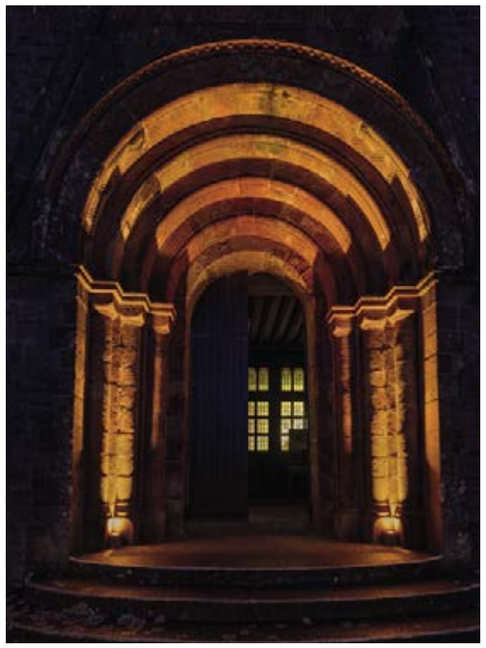
If you were stranded on an island, what kind of light would you want to look at?

K.A. I can't answer that because it's difficult to choose the best form of light. I enjoy the wild variety that nature can offer. But if I had to choose, I think the less glaring and brighter light is the best music for my eyes. The light that respects the dark.

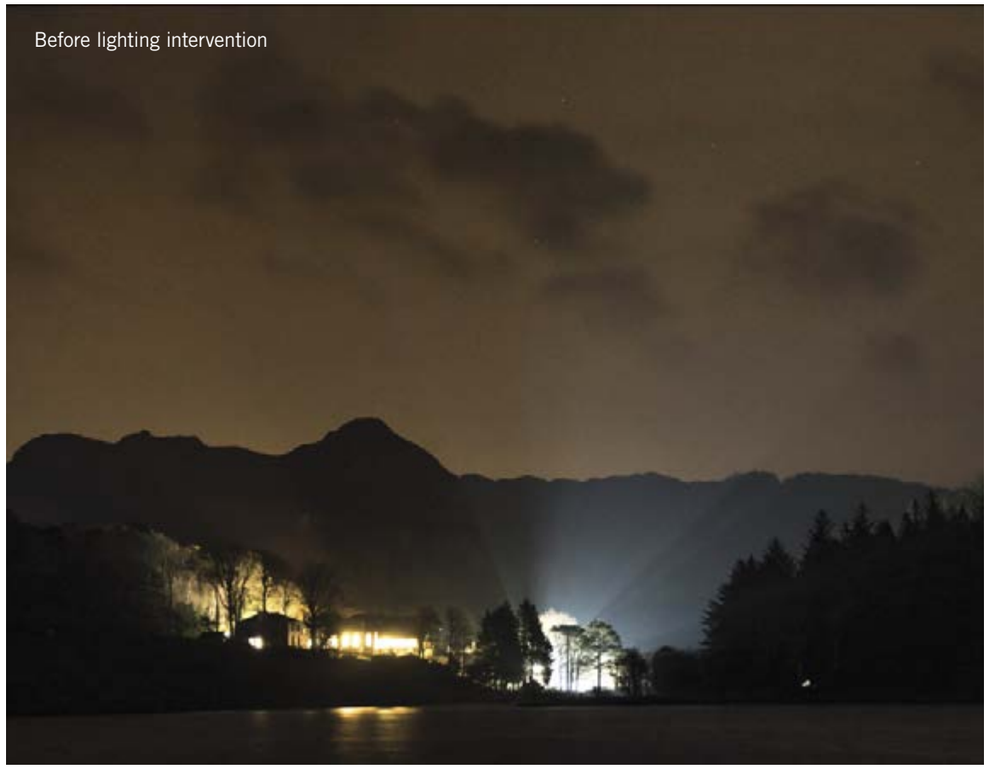
Before lighting intervention

After lighting intervention





Photographs of Newport Cathedral
after lighting intervention.


Before lighting intervention


After lighting intervention

"We can learn a lot from each other. There's a lot of power in individuals, and I think we're seeing more and more that it's about bringing the right people, the right mindset, and the right companies which share the same values together.
I learn a lot from the communities I work with, as much as they learn from me. It's the essence of grassroots community effort that truly nurtures us. If you take care of the people, the people take care of you."

Kerem Asfuroglu

Architecture in symbiosis with man and environment

The circadian nature of biological rhythms now becomes a central parameter in the design of circular buildings. Interior and exterior merge into a single ecosystem thanks to the skilful dialogue between natural and artificial light.

Interview to the architect Giovanni Traverso,
Co-founder traverso-vighy
Vicenza, IT

We are often used to thinking of architecture as something sculptural, linked to our historical heritage, a form that is almost immutable in time. In your projects (Studio Traverso-Vighy), on the other hand, an approach emerges that you define as "reversibility" applied to architecture, almost as if it were a living organism.
Could you describe how this circular vision of yours has developed?

G.T. I believe this vision has matured over time, starting from our formative years and then perfected in our more recent works, which are also the most radical in this sense. I think it all started with the generation to which I belong. Born in '69 and graduated in '94, I grew up in a world that had mainly developed in the twenty to thirty years following an explosive building boom. Indeed, about 80% of italian construction can be attributed to the period after the Second World War.

Perhaps it derives from an "allergy" to this cementification and, conversely, a sensitive appreciation for the landscape of my territory. I come from a small city, Vicenza, where there are open spaces, mountains, hills, intact environments that have often been contaminated by this trend. Probably unconsciously, even in our studies, we have always sought an antidote to this cementification. Both Paola Vighy and I (ed. Traverso-Vighy studio) graduated in architecture at the Iuav University of Venice and later studied in London at Bartlett University where we learned an architecture thought more for "craft pieces" and components typical of the entire strand of English architecture of those years and where we followed a master's course in Light & Lighting. Returning to Italy, we opened our studio in a very fertile situation characterized by a very flexible economy made up of small enterprises where it was possible to produce any piece with high technology at relatively low costs. We experimented with the first non-traditional buildings. To construct our first architectures, bricks, mortar, or plasterboard were not needed, but a dry assembly of predefined components.

Then, over the years, the use of computers has become increasingly predominant in the studio, and this architecture has become digital, making it possible to control the single piece, build it three-dimensionally, and arrive, as it has been precisely in the latest projects of the studio, to produce everything with a perfectly digital method. We applied this process to traditional materials because traditional architecture, which by definition is made of local materials available within a small radius from the construction site, relies on materials like larch wood from the mountains, steel from local carpentries, glass, and stone from the territory. All materials workable with CNC numerical control or laser cutting. We are talking, therefore, about automatic processes on traditional materials, of which we have tried to resume the use and the knowledge of processing and finishing. For example, wood that dries when it rains to avoid treatments or varnishes also for the love of what John Ruskin called "patina", i.e., that thing that attacks the materials and makes them able to merge with the environment.

Thus, the first buildings were of this type, and then little by little, we developed our path, our current in a perspective of recycling materials from buildings at the end of life. I think about glass, aluminium, or steel, or materials that can also be directly reused, such as wooden beams and planks. So yes, perhaps our buildings are somewhat of an organism.

I believe this is a way of proceeding in continuity with the environment. It is a way that joins a word very much in vogue today, which is circularity. I hope that this method of work can be as ethical as possible and become an example to share with the people we collaborate with.

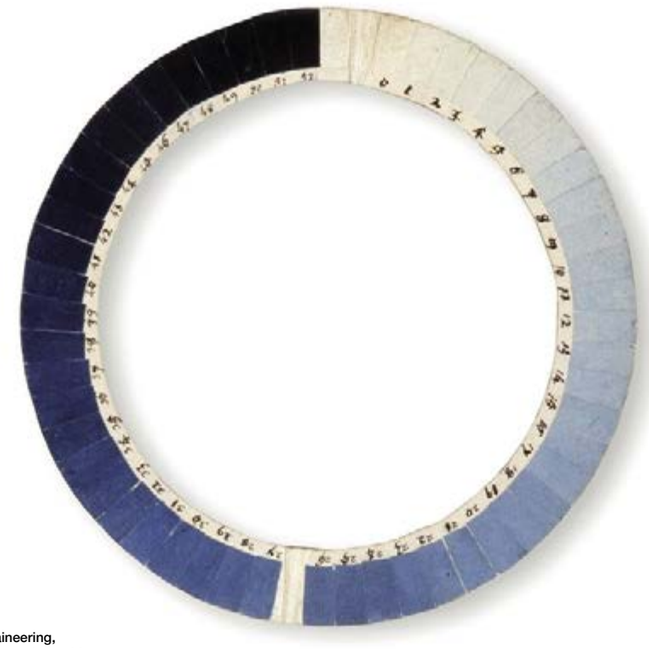
Also, our working system is crucial: we design everything in the design phase. No choice is made on the construction site because everything is already predetermined in the project phase, in which all our internal and external collaborators at the studio, including engineers, structuralists, mechanics, electricians, geologists, or surveyors, participate. Very often, in this phase, we consult craftsmen who make prototypes, we fine-tune them, and then in the executive design, the finished product appears. This very detailed design also allows cost control, i.e., offers as a whole "bypassing" as much as possible the traditional accounting of a construction site and the arising of economies. This has led to progressive growth for clients and the studio with increasingly ambitious commissions.

***"There's no place like another"*, to borrow from Dorothy's famous line in "The Wizard of Oz", to what extent does context influence design choices to create buildings designed for human wellbeing?**

G.T. The context totally influences the design choices. Naturally, the ideal situation would be to have a house on top of a hill, surrounded by nature 360°, like in the Renaissance. In our time, however, we have to somehow carve out the context, because in architectural terms, context means views and points to look at. Context is also exposure and orientation to the sun, because passive buildings, like the ones we design, have to make the best use of the sun throughout the seasons, to warm in winter and stay cool in summer. For this reason they need a sensible exposure to the sun. The design of the building envelope in relation to the context is important because it determines the relationship between the occupant and the external environment. We strongly believe in the concept of circadianity, i.e. the fact that people live and work in an "external" environment even though they are inside a case.

It is well known that in modern civilisation one of the stress problems for many people is precisely the fact that we are more and more in enclosed spaces, in means of transport, in the presence of artificial light, losing contact with the seasons, with meteorology, with the variations and modulations of light, which are instead extremely positive in regulating our biorhythms for our well-being. This is therefore an aspect common to all our buildings, where we always try to have or recreate a contact with the outside, which can be horizontal towards the garden, towards a valley, but also, as in some projects such as the "Spidi Sport Showroom", open upwards towards the sky, just by capturing the modulations of light.

The context can also have another level of reasoning, which in our case started from the project of our studio in 2011. For a building to be zero energy,



1785. The father of mountaineering, Horace Bénédict de Saussure, during his expeditions to Mont Blanc, invented the cyanometer, an instrument to measure the intensity of blue in the sky.

Corte Bertesina, Vicenza, 2017
Design team: G. Traverso, P. Vighy, L. Angelini, C. Baggio,
C. Cavalieri, S. Dal Bianco, G. Dalla Gassa, G. M. d'Arco, A. Marzano
Photo: Alessandra Chemollo

“The context totally influences the design choices. Naturally, the ideal situation would be to have a house on top of a hill, surrounded by nature 360°, like in the Renaissance.
In our time, however, we have to somehow carve out the context, because in architectural terms, context means views and points to look at. Context is also exposure and orientation to the sun, because passive buildings, like the ones we design, have to make the best use of the sun throughout the seasons.”

Architect Giovanni Traverso

TVZEB, Zero energy building, Headquarters traverso-vighy studio, Vicenza, 2012
Design team: G. Traverso, P. Vighy, G. Dalla Gassa, E. Panza
Photo: Alessandra Chemollo, Francesco Castagna

TVZEB, Zero energy building, Headquarters traverso-vighy studio, Vicenza, 2012
Design team: G. Traverso, P. Vighy, G. Dalla Gassa, E. Panza
Photo: Alessandra Chemollo, Francesco Castagna

which is what we are aiming for in all our buildings, it is necessary to know all the potentials of the site, energy potentials that are given not only by the sun, which I have already mentioned, but also by the geothermal potential of the ground, by the winds and by the trees that provide shade: so the context means, as it used to mean out of necessity, being able to optimise the energy performance of a building in relation to the potential of the site. So yes, I believe that context has a double value: an energetic one and a qualitative one, which is also linked to the well-being of the occupants.

What are the design challenges of integrating natural light with its artificial component, and how well is today's technology able to merge the two?

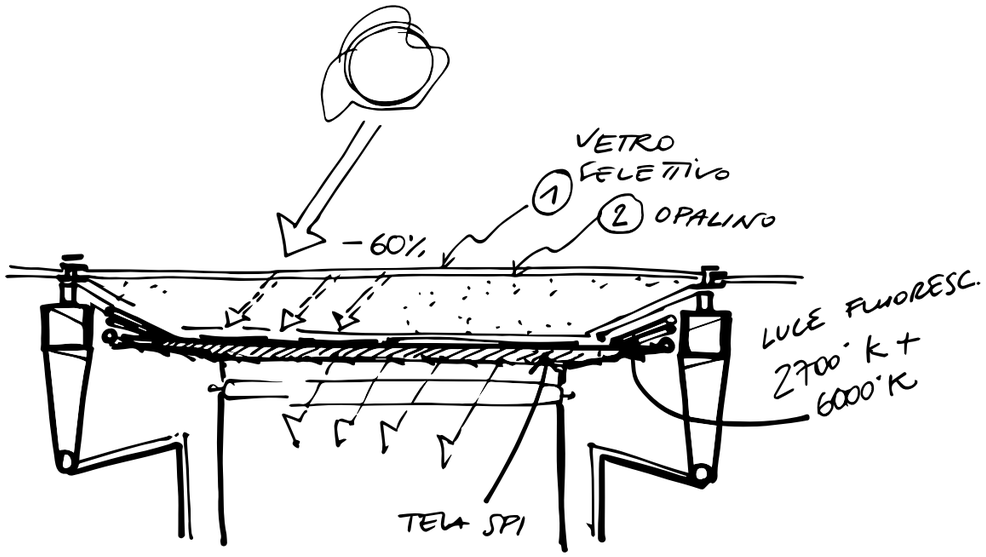
G.T. The challenges lie precisely in the word integration, i.e. trying to make artificial light more and more like natural light, so that it can gradually replace it in terms of both intensity and quality, so that it can be as warm as the sun or as cold as the sky, and so that it can change. I think this is a very topical issue. All the new solid-state technologies, more commonly known as LEDs, combined with the ever-increasing proliferation of control systems, expressed through the programmability of light and the use of sensors, allow light to become a positive light for people again. Artificial light, as revolutionary as it has been in prolonging human life in the dark, has in turn conditioned its quality because it has been static light, often glaring, with a constant colour temperature. I think first of tungsten, then fluorescent, then discharge, and so on. The LEDs, on the other hand, by its very nature, is an electronic component, so it is easily modifiable, and I think it is precisely in this modifiability that it can play its strength, and in many of our projects we have experimented with precisely this possibility of using the LEDs as a continuous integration as an emulation of natural light. It can work for emulation in closed office spaces and it can also work for integration in strongly naturally lit daylight spaces.

On the subject of raising awareness of spaces where light plays an increasingly important role in people's well-being, what role can brands play on of this aspect, which is very often neglected by designers?

G.T. What I hope is that lighting brands will be able to embrace this change and the need for a change of perspective, from light measured in Lumens to light measured in quality. It is no longer so much a question of being able to make the most efficient lamp possible, as the best engineers would do with monochromatic light in the greatest quantity, but of being able to give priority to well-being, to modulation, also because in reality we all work more and more in front of a screen in situations where we already have the light, it is already inside the device we are working with.

From micro to macro, from residential to commercial, the scalability of a process is essential. How does the design methodology change, if at all, depending on these aspects?

G.T. No, I don't think it changes, and the beauty of our work is that it's multi-scale, where micro and macro constantly mix at different levels and scales, but the method is always the same. Designing a small space or a large space always follows the same rules of analysis and synthesis that are part of the design process, so the attention and priorities are always the same, so yes, only the scale changes.



Spidi Showroom, Meledo, Vicenza, 2006
Design team: G. Traverso, P. Vighy, A. Rizzotto, J. Taylor, E. Stella, G. Piccioli (structure), Steam Padova, W. Fasolo (services)
Photo: Ruggero Zigliotto, traverso-vighy

So far we have been talking about natural light. Going Dark, on the other hand, is an international event, which you are organising, that puts the theme of light designed for the night at the centre of the dialogue between designers. What prompted you to investigate such a "side project"?

G.T. The simple answer is that even the night is part of the natural cycle of light, because when the sun crosses the horizon we enter the realm of the stars. In a broader sense, it is this attention to sustainability and the world of light that has probably been sensitised by our studies and experiences. But the incredible thing is that science, companies and the whole world of lighting are moving towards technologies that lead to greater product efficiency, to solutions that consume less and less and yet produce an incredible amount of light.

Our planet, seen from a satellite or from another planet, is getting brighter every day. This means that instead of using these technologies to reduce light pollution and therefore consume less and make our planet a little more sustainable, we are using them to make more light. This is an intrinsic problem of light, because unfortunately the relationship between us humans, the inhabitants of this earth, and light is always a bit dialectical in the sense that "our sun" has enormous light mutations. We live very well with a candle, just as we live very well in the middle of a desert with many lux, because we have a visual system that adapts to the amount of light available.

This mechanism, combined with artificial lighting, has created a real competition for light. When I was studying, the manuals said that a shop should have an average of 300 lux. Now for a shop, we want to have at least 1,000-2,000 lux. In the commercial spaces of our metropolises, these values become even 10,000 or 50,000 lux. This dynamic then triggers another situation. When a shop is illuminated at 1,000 lux, the one that is illuminated with 300 lux wants to have 2,000 lux. All this outlines a race to the light: in reality, the more light I produce, the more our visual system adapts to the new levels, increasing the perception of darkness around requiring higher levels of illumination for compensation.

So how do we solve this problem, which seems crazy when you look at it from a distance?

G.T. If the image of the first industrial revolution was smoke, steam and tangible pollution in the air, today it is the production of light, light pollution. But many of us are asleep when we waste all this light, pretending to be concerned about it. But if you could see all the light we produce and dissipate, and if you could also see how much energy it takes to throw all that light into the sky, it would be easier to understand that it is not working.

In my opinion, it is therefore necessary to be able to take advantage of the cultural factor of this reality by working to create a community made up of companies of lighting designers, astronomers and people who deal with the sky and measure it: this is Going Dark. Bringing people together to unite knowledge, know-how, everyone with their telescope, with their projector, in front of a historic architecture to illuminate and try to make these experiments, measure them together. Going Dark is a highly experiential and creative workshop aimed at meeting and confronting different skills, taking measurements together in a scientific way to find the point of balance in terms of fauna, man, the environment, architecture illuminated at night and the well-being of the starry sky.

All this in Monteriggioni, an incredible setting that will be the starting point for Going Dark. All the activities then take place at Abbadia Isola, a medieval monastery older than the Castle of Monteriggioni, perhaps less known because less visited by tourists, but always a historical stop on the Via Francigena that connects Canterbury to Rome. It was a hospital, a place where pilgrims stopped, slept and where there is a cathedral. This small village-convent, which has recently been renovated and where a new museum of Etruscan art has been created, will also host this year, for the second time, Going Dark, bringing together an international community of lighting designers in a place where, incredibly, the Milky Way can still be seen.

"In my opinion, it is therefore necessary to be able to take advantage of the cultural factor of this reality by working to create a community made up of companies of lighting designers, astronomers and people who deal with the sky and measure it: this is Going Dark."

Architect Giovanni Traverso

"Going Dark"event, Abbadia a Isola, Monteriggioni, Tuscany, 2023
Hosts: Giovanni Traverso & Paola Vighy, Light Collective

We have to ask you. What is light to you? What does it represent?

G.T. Probably the studies we did, the Masters in Lighting in London after our architecture degree, really changed the way we look at architecture. We are perhaps architects who work with the mindset of a lighting designer. We think of our spaces in terms of the orientation and movement of the sun. We think of spaces as being made of light, so in our design the light comes before the envelope and the materials of the architecture.
We often say that a space can be built with light, because without light there is no perception of space. So I think that light is the primary material that we think about and on which we try to order all the other surfaces. The architectures we design are an example of this, because the materials can work with light, they can return it, they can modulate it in a useful way for the definition and quality of the space we are going to design.

Sight is one of our main senses, but if we were to perceive light through the sense of hearing, what kind of music would it be for you?

G.T. Well, it could be many kinds of music, I would answer. Also, I think the analogy is extraordinary. As you mentioned, we get about 85% of the information about the world around us through the visual system, so all the other senses are really a bit undersized compared to other animal species where they may have extraordinary hearing and smell and very limited vision. But the analogy is strong because this is also the culture of light, and we connect to the discussion we had earlier about brands and businesses.
Light is something that needs to be modulated because it is modulated in nature. If you walk in a forest, you hear music: it is the light breaking in the leaves, it is the meadow in full light, it is the darkness of a cave, it is the firefly at night. This is music, and when you transpose it, it is light. From a technical point of view, it was not possible to do much with artificial light, perhaps because of a lack of resources. We had a tungsten bulb and that's it; a fluorescent bulb and that's it. Colour temperatures that could be dimmed and slightly cooled. Perhaps only in the theatre, and with a great waste of energy, could music be made of light, but only there, or perhaps in the cinema. Following on from what I said earlier, I believe that today light can once again be music, can once again be modulated to be pleasant, comfortable, stimulating, circadian in terms of our well-being.

"We often say that a space can be built with light, because without light there is no perception of space. So I think that light is the primary material that we think about and on which we try to order all the other surfaces."

Architect Giovanni Traverso

Salvagnini campus, Seregno, Lombardy, 2020
Design team: G. Traverso, P. Vighy, C. Baggio, S. Dal Bianco, E. Panza, V. Pesavento
Photo: Alessandra Chemollo

Bosco retreat, Veneto, 2012
Design team: G. Traverso, P. Vighy, G. Dalla Gassa
Photo: Alberto Sinigaglia, traverso-vighy

Light and wellbeing for inclusive sport

The Swiss Bike Park in Oberried is a unique place; it is a platform for education and experience that aims to promote healthy and safe cycling for the entire population. Sarina Huber, manager of the park, tells us about the soul of this place. The team responsible for the lighting project, describes the main principles behind the choices for targeted, context-sensitive lighting.

Interview with Sarina Huber, co-executive board partner manager, and with the team responsible for the lighting project from Regent Lighting Switzerland.

“The Swiss Bike Park is a social project for everyone. Sport is healthy, fun and brings people together, that’s what we want to live at the Swiss Bike Park.”

Sarina Huber

The Swiss Bike Park is a social project, a place for everyone, both professional and amateur cyclists. It combines the needs of different users and is an interesting platform for training and experience. Can you describe how this place is lived and used? What happens here every day? What kind of visitors do you welcome?

S.H. The Swiss Bike Park is a social project for everyone: every year we welcome over 26.000 park visitors, including 15.000 children! Our park is open to everyone - amateur, elite and disabled athletes - free of charge. Children, school classes, older people, the national mountain bike teams, everyone is welcome here. It’s the togetherness that makes our park so special!
We focus on “experiencing and learning”, but of course we never forget to have fun! The safety of our visitors is important to us.
Sport is healthy, fun and brings people together, that’s what we want to live at the Swiss Bike Park.

The Swiss Park is also a leading project in terms of accessibility for people with disabilities. In what ways this “inclusion spirit” is expressed?

S.H. The Swiss Bike Park is a place of movement and also a place of encounter. To ensure that everyone can take part in our social project and meet each other, we have focussed on accessibility.
On one hand, all rooms inside the building are easily accessible by wheelchair and all door frames are extra wide so that wheelchairs can move around the building without any problems. Naturally, all toilets and shower rooms in the park are also easily accessible by wheelchair and are tailored to the needs of people with a corresponding impairment.
On the other hand, care has also been taken outside the building to create the best possible conditions for wheelchair users: the cobblestones have been specially laid without joints so that wheelchairs can glide better over this surface.
Inclusion is an important topic at the Swiss Bike Park, which is why an induction loop for people with a hearing impairment has been installed in one of our lecture rooms; in addition, numerous control panels (for example in the lift) are also labelled in Braille.

Through this park, your foundation promotes sporting activity, but also the healthy and safe use of bicycles among the entire population. You have a broad mission, aimed not only at “bike fans” but at the whole nation.
What kind of cultural events take place in the park? What are your strategies and goals for the future? How is the tourism responding to your proposal?

S.H. The Swiss Bike Park building is called the “Clubhouse” because the platform should not only belong to us, but to everyone who visits the park and is therefore part of the “club”. Everyone who gets involved here should be part of the story and have a direct benefit, and with MyBikeDay (MyBikeDay - Bike4Kids) we are hosting the biggest Swiss event for young cyclists.
Young people from all over Switzerland travel to the Swiss Bike Park as the final event, where they can expect the coolest challenges (with and without bikes) great bands, food and chill village, celebrity guests and much more.
We have also founded the Swiss National Veloforum (www.veloforum.ch). The Veloforum is the most important national platform for cycling and brings together the areas of leisure, mobility, sport, technology and transformation, and our park can also provide a wonderful and incomparable setting for concerts, events and celebrations of all kinds.

What are your strategies and goals for the future?

S.H. The Swiss Bike Park Oberried is unique in Switzerland for many reason. As an attractive meeting and prevention centre for the entire population, it acts as a beacon project as well as a tourist magnet and combines the needs of elite, popular and disabled sports. Innovative and digital, the Swiss Bike Park is the perfect symbiosis of active leisure and technology.
The idea of a bike park for cycling fans developed into the vision of a unifying social project for the whole of Switzerland, and the park is available to everyone free of charge for training. Both competitive athletes and recreational cyclists benefit from it, whereby the focus is always on "learning and experiencing". As a training and experience platform, the park also offers a wide range of courses and services.

We know that this unique project was planned, developed and realized over 18 years. We also know that the Clubhouse was built with the latest Minergie-A standard. Could you describe the main strategies that guided the design of the park in terms of technologies and materials used?

S.H. Sustainability was and is very important to us: when building the park, we chose regional materials, for example wood from Switzerland, built a rainwater retention system for washing the bikes, and installed a 75 kWh photovoltaic system on the roof of the clubhouse and the bike shed.
There are various places in the park that provide a habitat for animals, like dry stone walls (for amphibians, frogs) and woodpiles (nesting places for birds, etc.)
The building also sets new standards in terms of innovation and technology, with an intelligent heat exchanger heating system and the building meeting the latest Minergie-A standards.
Finally, the digitalisation of the park facilities (A-Sport) in our park has also been implemented at the highest level.

We are an outdoor lighting company and we promote the culture of light as a tool for creating wellbeing. We believe that even through light we can make a place accessible, safe and comfortable and that we can illuminate how and where needed, saving energy and avoiding disturbing effects for the human vision and the environment. We are very happy to have been involved in this project because it represents a special and innovative concept.
You have chosen to light up the space with great care and attention. Have these choices had a positive impact on your activities? Do you think that the lighting project has contributed to making this place even more attractive?

S.H. It is extremely important to us that our employees and guests, children, young people, senior citizens, top athletes and people with disabilities, feel at home here. Even during the planning phase, great importance was attached to creating a pleasant atmosphere. In one of the most modern bicycle workshops in Switzerland, the combination of large windows and perfect lighting sets new standards and the lighting in the entire catering area also creates a sense of well-being for all our guests. We organise almost 200 events a year, which is why we rely on flexible lighting elements (from event lighting and product presentations to gala dinners under dimmed lighting), and great importance was also given to comfort and brightness outside the company building thanks to the uniform exterior lighting concept. The entire area, from the car park to the farmhouse and clubhouse, is optimally lit, which also benefits safety and, not least, prevents accidents.

The Swiss Bike Park is the result of a broad and collaborative project in which light has played a very important role, both in the natural context in which the park is located and in the functions it has to perform.
In the story of the lighting project we find out in detail about the challenges and choices made.

Designing light for a demanding client who pays attention to the smallest details. A stimulus or a brake?
The aim of all the members and sponsors of the Swiss Bike Park was to have lighting that matched the quality of the product on display and the architectural project. With this in mind, we conceived the lighting project as an integral part of a broad and shared process aimed at ensuring visual well-being. An accessible and safe place where careful lighting design has helped to make the spaces inside and outside the building even more attractive and comfortable. We gained the client's trust with an initial proposal based on the pre-existing historic building. We designed it with some up and down light effects positioned on the façade and combined with linear elements. The idea was so convincing that it gave us carte blanche for the next steps. We kept to the line of targeted and punctual light. The decisions were discussed and validated with the architect from time to time and it was very stimulating work.

The Swiss Bike Park is a complex project in terms of its spatial configuration, consisting of different buildings, historical origins and uses: transit and logistical hubs alternating with relaxation and rest areas. How did the lighting design evolve?
First of all, we have to contextualise the project. The Swiss Bikepark is located in a large valley, in a natural and agricultural context, far from industrial areas or urban centres, so it is very dark at night. For the lighting project, we wanted to respect the environment by using luminaires that would not disturb the darkness.
Simes products were ideal for this project because they direct the light exactly where it is needed and the intensity can be adjusted at any time. The technical flexibility provided by the DALI protocol was essential, as it allowed us to control each individual group of products by setting the required light level and minimising spillage. The assumption that we would be able to control and adjust the light according to our needs was the driving force behind the development of the entire project. In the outdoor exhibition area dedicated to bicycles, we favoured scenic and point lighting rather than street lighting with diffuse light distribution. The key solution for lighting these large paved areas was to use Stage masts in an original cluster configuration to create downward pointing spot effects.
In this way we respected the environment and the needs of the space.
This area is not open in the evening, except for special occasions such as private events where the space is used by small groups of customers. This type of lighting allows people to find their way around the space and feel safe, using only the necessary amount of light. The whole system is controlled by motion detectors that activate when people pass by.
We have also defined the lighting levels to be achieved at night. When movement is detected in the room, the lighting is switched on and adjusted to a level that ensures safe use. When it is no longer needed, it switches off.
This is also why we developed a project with a considerable number of luminaires. Each of them contributes to a targeted and well-controlled effect. Each point of light is individually controlled, all the targets are well defined and we always use light only where it is needed. Another very stimulating situation from a design point of view was the lighting of the trees. We are referring to the large plane trees lit with Miniround, special semi-circular luminaires that are recessed into the ground. The final solution was the result of a long discussion with the client, based on the need to be able to sit outside in the summer and enjoy the space until late in the evening in a pleasant and relaxing atmosphere.
The lighting approach could have been based on the use of standard or pendant luminaires, but the final choice was the intelligent use of in-ground luminaires placed between the seats that would furnish the space: a light on the ground, light and pleasant, would have created the right atmosphere. The plane trees would then grow and develop a beautiful screen of foliage, transforming the natural element into a welcoming green corner, enhanced by soft and convivial light. All this was done in full compliance with Swiss regulations, which are very strict, especially in Bavaria (DE), with regard to light pollution.
Another interesting aspect of the project was the façade of the main building, which has a dark

wood cladding with irregular grooves and varying depths. We tested several products and carried out numerous lighting tests in the presence of the architect and the client to understand which solution would best express the materiality and irregularity of the façade.
The conclusion was to outline the perimeter of the architectural volume with a strip of light: the Simes Led Tube proved to be the best solution; its transparent diffuser allowed us to achieve the right lighting effect and discreetly emphasise the shape of the architecture.
For the first floor terrace of the clubhouse and the outdoor area in front of the restaurant, we chose Bell because, in our opinion, it created a nice aesthetic contrast and softened the more austere design of the other areas in a "playful" way. In addition, its bronze reflector warms the colour of the light directed downwards, giving the right warmth to the evening environment. The lighting effect and elegant aesthetics of this luminaire have been received with great enthusiasm. We can safely say that this is the product that receives the most positive feedback from visitors.

A park entirely dedicated to the bicycle, which here becomes a synonym for sport and social integration. The VeloHaus plays a very important role in this context. What is its function and what was the approach that determined the choice of lighting?
The VeloHaus plays a very important role. It is not just a bike depot, as it might seem, but a real exhibition and sales area.
The Swiss company Thömus, the main sponsor of the Swiss Bike Park and synonymous with the highest quality in the bicycle sector, identified this space as the perfect location for its open-air showroom. The company currently sells 90% of its bikes through the 60-metre exhibition area of the VeloHaus, and the park is essential to allow customers to try and test the bikes on site.
Given the strategic importance of this part of the project, the lighting design had to stand out and give maximum prominence to the products on display. That is why we immediately thought of IP SYSTEM®: We knew it could offer an innovative functional and aesthetic interpretation of this area.
The linear and diffuse light of Highlighter, combined with the spot accent effects of Flower Zoom directed at the bikes, transforms the space into a scenic stage where the quality of the bikes is highlighted. We really think it was a winning choice and the result speaks for itself.

"In the lighting design, we made sure to respect the surroundings by using lights that would not disturb the darkness."

Lighting design team from Regent Lighting Switzerland

Dialogue between design culture and lighting culture

What lies behind a Simes product? A shared language and method where nothing is left to chance and every intuition, component or design is the result of a constant dialogue between past, present and future. Material and immaterial elements combine to describe a unique language that is the Simes alphabet.

Interview with the Simes R&D team and Simone Rossato, a professional and external collaborator specialising in light digitisation.

In a contemporary scenario, where product development is related to increasingly complex design dynamics, what is the method applied by your team? How do you understand the needs coming from the market? To what extent are these requirements drivers for the development process of a new product?

R&D The starting point for product development is to identify the needs of potential customers through market research, territory analysis and dialogue with designers and industry experts.
The aim of our R&D department is to design and develop a product that meets these needs. Our work therefore sometimes takes the form of updating the product range with completely new luminaires, sometimes it takes the form of updating existing models.
The development phase begins with a sketch of the idea, the purpose of which is to give shape to the needs identified. We usually start with a 3D modelling programme to work out the initial product shapes, which are shared and discussed with the whole team in weekly technical meetings. We then develop an initial 1:1 scale prototype in wood or cardboard to study the size and proportions of the product. Once this phase has been validated, we move on to the detailed study of the shape by 3D printing several variants on a rapid prototyping machine.
At this point, we move on to the actual engineering of the product to determine its functional internal components and evaluate the manufacturing technologies. This phase involves analysing the design of the moulds, the type of light source, the colour of the light and its distribution. The real challenge for us is to maintain the aesthetic ideal achieved when defining the design and to adapt the engineering to it.
At this point, if the validated prototype meets all the requirements, we evaluate its expansion into a range. Rarely do we design a "one shot" product, our aim is to satisfy all lighting requirements through applications that vary in size and light intensity.

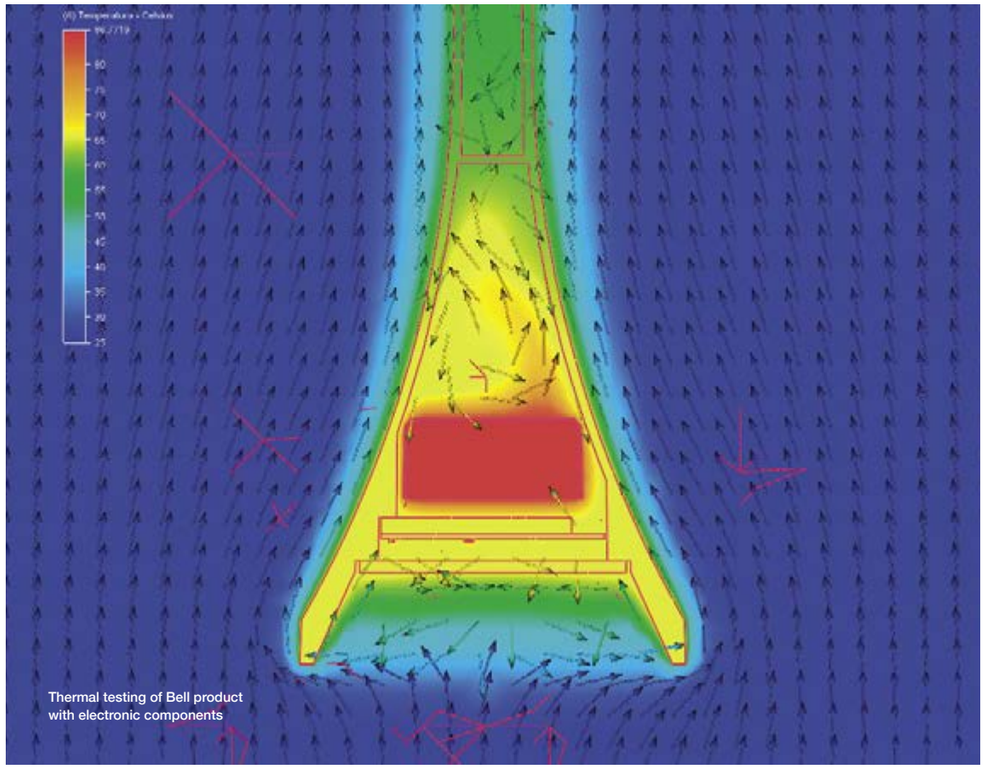
How is the work distributed within the R&D team?

R&D The R&D team at Simes is made up of people from inside and outside the company, each bringing a different set of skills to the table.
The company owner is an integral part of the team and helps to maintain a common language and work in harmony, overseeing formal consistency and validating the direction to be taken. Guidance is certainly important, but equally important is the ability to translate ideas into actions, sketches and proposals. It is not easy to turn an idea into what is often a very complex physical object, so the ability to work as a team and translate ideas into reality is crucial.
Over the years our technique has evolved, and we have learnt to work very effectively in teams based on the initial brief. It is now rare for an interpretation of a concept to be deemed invalid. More often it is analysed and refined. This is possible because of the shared vision and our ability to work consistently with the team's objectives.

In your development process, how often do you have to rethink solutions because there are changes or problems that could not be solved at the time? How many rework phases are there in this process?

R&D The product rework phases often depend on the complexity of the project and the technologies used. In the design definition phase, we may rework the aesthetics of the product several times until we find what we consider to be the "ideal beauty". Once this has been found, the engineering phase can be used to make micro dimensional corrections to meet technical requirements such as heat dissipation or mechanical resistance to impact.
In the specific case of the Mini Bell garden stake, for example, we initially considered using a technology we were familiar with, aluminium die-casting, to produce the stake joint, only to realise that this would not have been the ideal solution. After testing the mould in the foundry, we were bitterly disappointed with its dysfunctionality in relation to the part. So, in keeping with the original design, we changed direction completely and opted for a shell mould so as not to change the design.
This example reminds us that it is never too late to rethink and improve the production technology of a part, even if this requires additional effort and unexpected investment. This process influences the final quality of the product; every mistake and every rethink can lead to a significantly better result than the one achieved in the previous step.

Design study and evolution of the Bell family



Thermal testing of Bell product
with electronic components

Bell product aluminium die-cast body,
just removed from the mould

"Our corporate values are clear, transparent and easily identifiable in our products. Technical components that may seem cold at first glance are in fact peculiar and help to consolidate a unique language, a kind of Simes alphabet."

Simes Research and Development team

Look by Simes, wall applique with glass diffuser

Cool by Simes, applique with lighting void

What is the most challenging phase for the R&D team? The one that focuses more on the design side or the technical side?

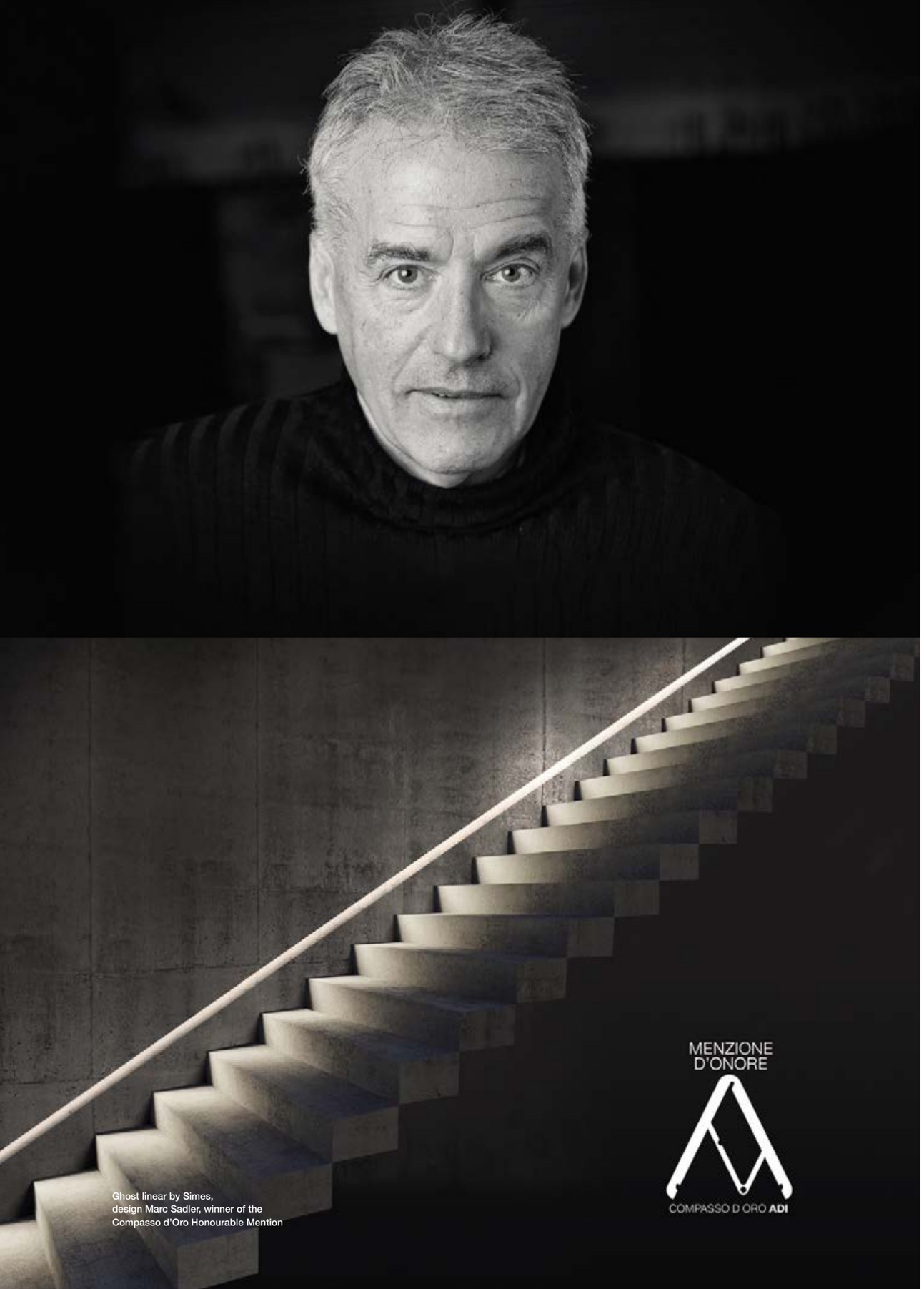
R&D Both are important, but once the design of the product has been defined, the challenge is to meet the required technological needs without making any aesthetic changes. For us, it is a question of taking this shape in all the versions required by the market, and in this case several critical elements come into play: heat dissipation, light distribution, the structure of the product and its resistance. The real challenge is to take into account and exploit all these technical factors, while remaining faithful to the shape and proportions defined at the outset.
Maintaining formal and technical coherence within the Simes catalogue is equally challenging. This is because the Simes philosophy is to present products on the market that are translated into a complete family logic, in all its application variants, in an eloquent fil rouge of the company's vision. The product developed will always be recognisable and traceable to the company, both technically and aesthetically. This is a central part of our design methodology.
Our company values are clear, transparent and easily identifiable in our products. Technical components that may seem "cold" at first glance are actually distinctive and help to consolidate a unique language, a kind of Simes "alphabet".

The unexpected or unanticipated can change your point of view. Sometimes the technical solution does not come, so you have to start again by looking at things from a different angle. Has this ever happened to you? How do you deal with the unexpected?

R&D In a world where technology is constantly evolving and the market is increasingly competitive, it is easy to get stuck in a routine and lose the ability to surprise. But it is in these moments that the unexpected can become the engine of creativity. Sometimes a sudden inspiration can change the course of things.
For example, a few years ago, during the development of the Look wall luminaire, a very compact object with top and bottom glass and a double light emission, a new family called Cool was born.
During one of our technical meetings, while examining a sample of the Look, which was not yet complete with all its components and lacked the glass for light diffusion, we were so fascinated by the aesthetics of this hollow object installed on the wall that we decided to study this very light and minimalist aesthetic.
The indirect light effect on the surface of the piece created a particularly pleasant comfort and diffusion. The result was so convincing that we developed a whole collection based on this aesthetic philosophy.
This is how the "Full and Void Luminous" collection was born, a series of lighting solutions that are characterised by a synthesis of the strength of aluminium and the lightness of its forms.
The hollow object allows us to look beyond, leaving space for the vision of architecture. The small dimensions of the LEDs allowed us to fit the circuit in a very small space, reinforcing the feeling of total lightness.
This has been the driving concept for the company for several years. In the end, we can say that in development, the unexpected can turn into great opportunities.

You mentioned that observation and dialogue with the market, or more generally with the outside world, is part of your inspirational background. How important is it for you to look for inspiration in other areas that are not necessarily relevant to the world of lighting?

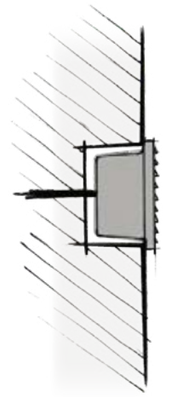
R&D I think it is crucial to be curious, to constantly look for sources of inspiration and stimulation outside our field. I think it really makes a difference.
We take our cue from everyday objects, from our interests and passions, and we appropriate what can be good ideas; recognising the potential of a technical solution that belongs to fields far removed from lighting and being able to translate it into our products is fundamental.
Fairs such as Euroluce or Light+Building are essential because they allow us to pick up on trends and interpret the direction of our sector. But even fairs that are not strictly related to lighting can be useful for developing an idea or research.
In fact, the most difficult years for us were the years of the pandemic, when it was impossible to move, to meet customers, to travel. In those years it was not easy to develop products because it was not easy to understand the needs of the market and to have a clear sense of the direction to take.
Another source of great growth and exchange is undoubtedly the comparison with the professionals we work with. From a digital point of view, for example, the confrontation with specialists in the field gives us the opportunity to learn about new software and protocols that can be used in combination with our products.



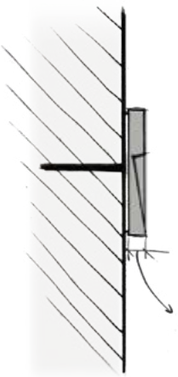
Ghost linear by Simes,
design Marc Sadler, winner of the
Compasso d'Oro Honourable Mention

How important is the collaboration with external designers? Is the consecration of a design idea the result of multi-handed work or does the designer work independently on the basis of assigned input? Can you cite an example that has stuck with you?

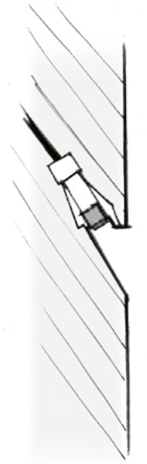
R&D Collaboration with external designers is important in the development process of a new product. We have worked with various professionals and the history of Simes teaches us that it is a collaborative work and never an autonomous one.
It can happen that the company needs to develop a product with a different approach, and therefore the need arises for a comparison, a broader vision, different ideas, and in these cases, it becomes crucial to work with an external designer. This partnership is never immediately activated. On the contrary, it involves an initial phase of getting to know the company and its mechanisms, of understanding the philosophy behind the products, to identify our design "alphabet" for a successful sharing of intentions. This is the only way to develop a lasting collaboration of productive exchange and comparison.
We had the opportunity to work with Marc Sadler on the Ghost project and we can say that his approach is quite unique. He focuses on the technology and functionality of the product and translates these considerations into innovative forms. His approach is different from that of the last thirty years of Italian design, which has focused more on form and less on technology. It was precisely this meeting point that allowed us to find the perfect match with Sadler. Working together has been a special and enriching experience. It was an open and shared path where we studied and discussed the solution together to arrive at a new concept of wall recess. I don't know if a product as complex and revolutionary as Ghost would have been born without Sadler, because its story begins way back in 1995 with Brique, the first recessed luminaire designed by the company, with a box recessed in the wall and a luminaire body protruding from the wall. In 2013 it evolved into Skill, which no longer required a recessed box, but installed the luminaire body directly into the wall. Then, in 2016, came a new turning point with Ghost, which we can define as the third phase in the evolution of the recessed wall light, namely the dematerialisation of the lamp body: the product actually disappears to show only the light.
Sadler's character was not only fundamental to the development of the idea, but also brought a great deal of knowledge about materials, allowing us to discover properties of cement that we did not know about at the time. His character was fundamental in arriving at an innovative solution and creating something that had never been seen before.



Brique
1995



Skill
2013



Ghost
2016

Evolution of the wall
recessed luminaires.

There has been talk of digitalisation, i.e. of software and protocols that are "invading" products. Is this transition more or less challenging compared to what the transition to LEDs was for Simes in the past, considering the historical period?

R&D The advent of the LEDs about twenty years ago made it possible to address the aesthetic dimension of the product in a different way, thanks to the size of the light source, which made it much more manageable and easier to design than traditional sources.
The revolution we are experiencing today with digitalisation, on the other hand, focuses on the functionality of the product and its interaction with people and society, for intelligent energy management.
The subject of lighting control is crucial, not only because it offers a great deal of design freedom, but above all because it is a tool for saving energy and improving individual comfort and well-being. Simes wants to move towards a concept of simple, dynamic and digital light, and digital beam technology is certainly a tool for making a significant step forward in the world of lighting. The skilful manipulation of light can make all the difference in a lighting project.
In the context of smart cities, lighting has become a critical component of urban infrastructure, playing a vital role in improving public safety, energy efficiency and sustainable development. By integrating IoT technology, smart lighting systems can collect and analyse data on energy consumption, enabling real-time adjustments and optimisations.
This exchange of information also makes it possible to reduce maintenance times and costs by intervening in even the most complex networks in a targeted and timely manner.

Electronics has become so important that new professionals are emerging, essential to the overall development of not only the individual product but also the lighting system. How does this change the situation? Could product design be affected?

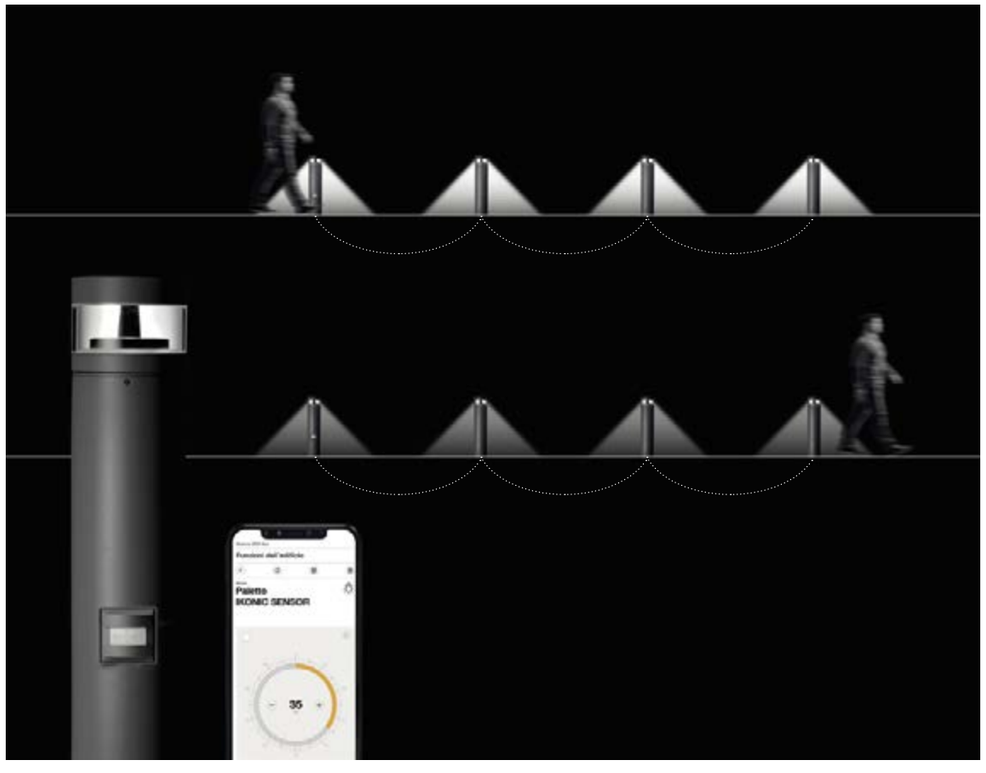
R&D We can already see how the reality has changed. Today, for example, home automation is used in many homes. If we transfer these expectations to outdoor lighting, we will increasingly want to be able to manage outdoor lighting in the same way as we manage indoor lighting. Technically, this means that the protocols need to be able to talk to each other. The real challenge will be the product's ability to integrate with a range of solutions that are already on the market, but which will become increasingly standardised in the future.
If the goal remains to have the product communicate with other devices, the design of Simes products will necessarily have to take these new paradigms into account.
One of the most obvious aspects could be the material of construction of the lamp bodies. Aluminium is an incredible material in terms of its ability to be recycled, its lightness, its durability and its sustainability, but it is notorious for being a barrier to the passage of electromagnetic waves, as it tends to screen out the Wi-Fi signal, which is essential for the transmission of the digital signal.
So, our task as designers will be to find solutions that allow us to maintain high standards of product quality and sustainability, but also to enable communication and data exchange.
One of the questions we might ask ourselves is: do we design products with inserts in alternative materials that can receive the signal, such as glass or plastic, or do we move the control to the outside of the product so as not to change its design and structure?

The need for hybrid skills, moving between computer engineering and programming, is leading to the emergence of new professionals to support companies with a constantly updated vision. What do you think about this?

R&D Digital technologies are evolving at an incredible pace, making it difficult for non-specialist companies to remain competitive. If you are not able to keep up with this evolution, you risk being left behind. An effective solution to this challenge is to work with professionals and consultants who are specialised in the field and develop ongoing contacts by keeping up-to-date on the continuous progress of the sector. In fact, what is needed is an "interpreter" who is constantly inside and outside the company. An osmotic figure working on several fronts. A person who is close to the company, who is constantly out in the field, absorbing the stimuli of a world that is changing at breakneck speed.

"The revolution we are experiencing today with digitalisation is focused on the functionality of the product and its interaction with people and society, for intelligent energy management."

Simes Research and Development team



Digital beam and motion sensors for total light control.

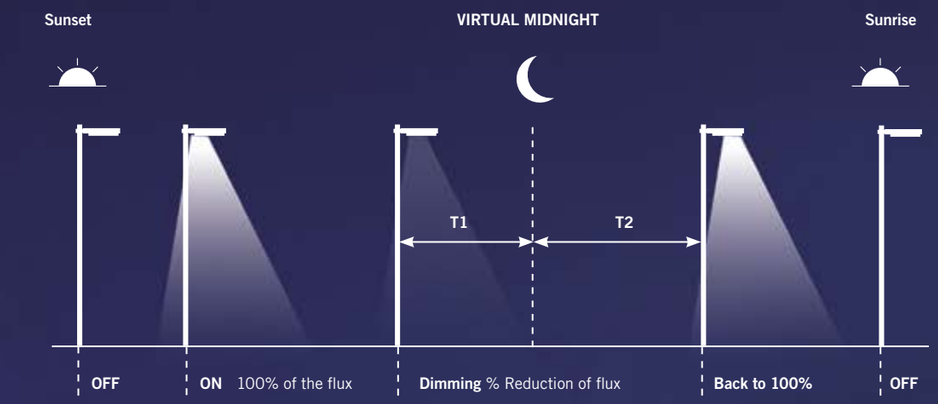
The control of light is a philosophy, but at the same time it is also a very specific technological and research aspect that has become more and more demanding but also increasingly necessary to be able to respond to market requirements in the best way. We interview Simone Rossato, an external collaborator and member of a company specialised in the digitalisation of light.

Lighting management is an issue involving both physical and technological aspects. In particular, modern lighting projects are characterised by a strong component of technological innovation, which includes both hardware (the luminaire) and software (the management and development of the back-end). As digital developers, how are you addressing this challenge? What are the current scenarios in lighting and digital worlds?

S.R. I take up some concepts from your question. There are two key aspects in lighting management: hardware, i.e. the physical product, and software, which is becoming increasingly important. Both these aspects are evolving to meet today's challenges. For example, product sustainability legislation has introduced requirements for energy efficiency and waste reduction. Our goal is to make the most of LEDs technology, which has enabled us to significantly improve energy efficiency and address issues such as carbon footprint and sustainability in product design. Thanks to the technology, we can now manage power intensity extremely easily.
Another important aspect is the removal of barriers in the communication and data exchange between different devices, managed with software and protocols. This allows us to make a project accessible to anyone and to easily process the collected data.
Matter technology is a concrete example of this new transmission. Leading global players are collaborating to develop a protocol that converges data from different platforms, such as DMX and DALI, so that it is available to everyone in a measurable and comparable way. This allows us to improve light management and make it more accessible for all.

When we talk about data control via software platforms, such as DALI for example, which Simes also works with, do you think these are technologies for the exclusive use of the designer or is it something that is already reaching the end customer? Let's take important jobs as an example, showrooms rather than large residences or hotels where we want to set up lighting control like dimming, timing, colour change. Are these settings manageable via mobile phone by unqualified personnel, or do we still need to have them managed by insiders?

S.R. I think some distinctions need to be made. The user-friendly approach has been improved over time to allow most users to easily manage the switching and dimming of the light via apps and mobile devices.
However, when it comes to data and consumption evaluations, we need to call upon figures such as the utility manager, the person who translates this data and makes it possible to understand how efficient and how productive a system is. In this case, the utility manager has the ability to evaluate and process the data needed to improve system performance and pass it on to those in charge. Finally, if we talk about the actual programming of lighting management systems, then we are talking about specific and highly qualified figures, with exclusive skills that are functional to the design of the system. The professional in this case assesses how far one can go with one technology and where it would be better to rely on another, making a cross of solutions to reach the expected result.



VIRTUAL MIDNIGHT mode reduces the power at certain times of the night, leading to an important energy saving.

How do you manage the research and development of new technologies in your company? How long does this work take?

S.R. Our company is dedicated to providing integrated and specialised solutions in the field of electronic components for lighting products.
Our approach is based on a method that involves, first of all, analysing the manufacturing company and its products. To do this, we have to talk to the customer, travel and conduct audits at the company's premises, and get to know and validate the production processes involved. Our work aims at constant product improvement through continuous testing and evaluation of results. We identify the solutions that perform best, the repeatability of failure and other functional and strategic parameters. This process takes up a large part of our time and we are investing more and more in this area because we have realised that this is the right way to stay ahead of the times and sometimes even manage to anticipate trends. We like to define ourselves as value-added partners, i.e. developers of innovative solutions for lighting companies.

How did the collaboration with Simes begin and how do you work together on a product digitisation project?

S.R. Our collaboration with Simes, which started several years ago, has been very stimulating because it has opened us up to the unexpected and to seemingly impossible challenges. It is one of the most innovative companies in the lighting sector and has helped us to overcome the technological limits of the market. Simes had the brilliant intuition to bring into the outdoors, products that until then had only been conceived for indoor use. This idea was a game changer: we collaborated with Simes to develop a lighting system that simultaneously worked as an energy propagator. This led to the development of a light strip with diffuse light, capable of powering, at any point along its length, other luminaires, thus combining a continuous light effect with spot effects. This was a very exciting challenge as it allowed us to manage two independent power supplies, two possible dimmings and even to change the colour temperature of the light.
The result was very innovative both on a software and hardware level; Simes thus developed a very sophisticated system, which is now protected by no less than 7 international patents, capable of managing multiple pieces of information simultaneously from a "simple" silicon LEDs strip. It was a unique project and a remarkable example of how synergy between two companies can lead to extraordinary results.

As a digital professional, how important is it for you to share with your stakeholders the direction of the market, which is moving towards the production of ever smaller and more powerful objects that can be managed with less energy and with shared protocols?

S.R. It is fundamental for us to make culture and share our technical know-how with lighting companies. We have to educate people and show them how theory is transformed into a real, developed product. This combination is important in order to arrive at a common result: understanding how central light is in our lives. In addition, we must also show the concreteness of this process, i.e. the final product, as a real example of how applicable and functional the theory is. This is how we can influence the market and contribute to the creation of increasingly efficient and sustainable products.

As a final question, we would like to ask you: What does light mean to you?

S.R. To answer this I have to reveal a secret: my background is not only technical, but also medical. So, I don't just see light as an insider, but always approach it in a more biological way. I don't want to go too far into this, but studies have been done showing that it is possible to accelerate the growth of certain organisms, simply by changing their circadian rhythm. So if I look at light from this point of view, I actually see it as a biological clock, the clock of our lives, because it regulates the sleep and wake cycles of all living things.

"My background is not only technical, but also medical. So, if I look at light from this point of view, I actually see it as a biological clock, the clock of our lives, because it regulates the sleep and wake cycles of all living things."

Simone Rossato

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