

EXPLORING CITY NIGHTSCAPES

Conversations with

AMSTERDAM / ANTWERP / BOLOGNA
CITY OF LONDON / GHENT / GENEVA
JYVÄSKYLÄ / LYON / ROTTERDAM
SEOUL / SHANGHAI / STRASBOURG



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Sylvain Godinot

Deputy Mayor of Lyon
in charge of Ecological
Transition and Heritage

Light is a major part of Lyon's identity, in both its history and its contemporaneity, from the Lumière Brothers and their brilliant invention of cinema, through 8 December and the Fête des Lumières, as well as the city's lighting master plan: for 30 years in fact, this strategic tool has contributed to the in-depth transformation of the city, while respecting its heritage, its exceptional beauty, and its dynamism.

This nocturnal landscape, resulting from a scenography combining illumination and shadows, has become a true signature: it not only reveals the history and past of the city, but welcomes the present and the future. Beyond the direct economic impacts, the nightscape underlines the value of ordinary as well as extraordinary heritage and shapes the ambiances of the city.

Evolving over time, the nightscape is also the result of a series of compromises between the different priorities of cities. It seeks a fine balance between objectives of security, heritage and cultural promotion, energy efficiency and ecological transition... To light, not to light, what, how... political choices, if any!

In recent years, the concept of light has also experienced a turning point, with the emergence of the artistic dimension of lighting alongside its functional one. It opens up possibilities for developing and rethinking the city.

However, even though light is universal, it is far from being fully understood and appropriated: a dialogue between cities and private lighting stakeholders must lead to an understanding of needs and uses, the definition of a common project and a common culture of light, for a shared and lasting commitment. Such a dialogue becomes possible when the positions of citizens evolve, in particular with demands for rationalised lighting. The line of thinking also broadens into a larger debate, which focuses on public spaces at night and a reflection on the uses of the city at night.

It is all these questions and avenues for reflection that this book helps highlight through interviews carried out by LUCI within the framework of the European project ROCK, with representatives of 12 cities who all reflect on the evolution of their territory and the role that light can play in shaping and maintaining a quality nightscape. This work will feed into the new lighting master plan for the City of Lyon, which will be based on the experience gained from exchanges between stakeholders, and will be integrated into a reinforced approach of energy sobriety, balance and contrasts between light and shadows within darkness corridors in the making.

FOREWORD

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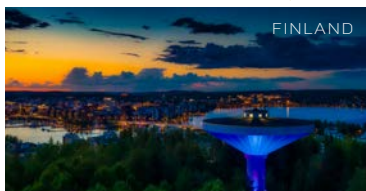
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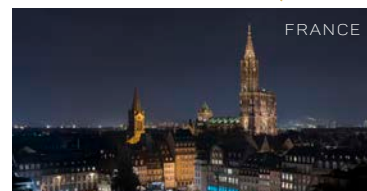
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EXPLORING CITY NIGHTSCAPES

Common challenges and critical questions

There is a story behind the nightscapes of our cities. The nightscape impacts how we move through cities and what we see as we do so. Certainly, light is essential for the functioning of a city after dark. But beyond the functional, how cities apply light in their urban spaces goes a long way towards shaping these spaces and our experience of the city as a whole.

Cities can use light in a variety of ways, leading to very different luminous landscapes, or “nightscapes”. Light is eminently political. Not only because it has a link to safety and security, a key concern for most mayors, but also because of the symbolic aspect of light when we choose to highlight something, or to the contrary, keep it hidden from view.

Indeed, in many cities, nightscapes are a construct. They depend on the political framework and the vision of key decision-makers. The portrait painted with light over time varies from city to city based on different political choices, cultures, values, priorities and ambitions.

While the impacts of nightlife and the nighttime economy are increasingly recognised today, the importance of the city nightscape is perhaps less evident. The nightscape falls within the realm of the intangible, with far broader consequences than direct economic and social impacts. It influences the image, the “mental picture” of a city and has an implicit heritage value.

City nightscapes also evolve over time, they grow and mature. Different cities are, of course, at differing stages of this evolution. Some relatively “young” nightscapes start by focusing on a group of buildings in the city or a specific neighbourhood, and others with a vast dimension, compiled over two or three working generations, encompass the entire city and have far-reaching implications.

So how have some cities across the world created these luminous landscapes that make them what they are?

This publication, initiated by the City of Lyon in collaboration with LUCI within the framework of the European project ROCK, aims to shed light on the different approaches to developing city nightscapes.

Through this series of conversations with major cities across Europe and the world – Antwerp, Amsterdam, Geneva, Ghent, Jyväskylä, City of London, Lyon, Rotterdam, Seoul, Shanghai and Strasbourg – we aim to provide readers an insight into how public lighting

decision-makers deal with the challenges of creating a city-wide lighting vision and seeing it come to life in the nightscape.

These 12 cities, largely chosen for the variety and richness of their approaches, are at different stages of reflection and construction of their nightscapes, with varying priorities and ambitions. Several more equally interesting cities could also have been included – indeed there are as many perspectives as there are cities – and they will undoubtedly be further explored in the future.

These rich conversations with public lighting decision-makers have brought to light common practices and challenges in cities worldwide and raised some critical questions that policy-makers will need to navigate in the near future :

Bringing about a mind-shift: light beyond the functional

Perhaps one of the most revealing commonalities in cities interviewed is that they have succeeded in bringing about a mind-shift leading to a new way of thinking about urban lighting public policy. Urban lighting is perceived as more than just a functional element necessary for visibility and security, or as a catalyst for energy and cost-savings and smartness; it is recognised as equally the domain of artists and designers, enabling deeper, richer conversations and unleashing new possibilities for developing and re-thinking the city.

The urban nightscape: a living, breathing entity

In the opinion of most cities interviewed, the nightscape consists not only of the illumination of public spaces and buildings, it also includes lights from private buildings, apartment windows and other light sources. All of these elements must come together in a nightscape that creates an overall whole that reflects the culture and values of the city. The nightscape reflects the identity of the city, often even becoming a brand of sorts: many cities spoke of light as a city marketing strategy, even going so far as to call it their “luminous signature”. For many cities, the nightscape not only speaks to the history and past of the city, but also its path for the future. It is also seen as an opportunity to bring structure to the city at night and to shape nighttime activity. In addition, most cities see the nightscape as a fluid entity, not just linked to the physical space, but also linked to emotional user experience. Light is something that is indeed experienced not just physically, but also emotionally, as it conveys an emotion or creates a memory, by using the familiar or unfamiliar aspects of a place.

Evolving with technology, but not for it

How can urban lighting decision-makers stay on top of the game vis-à-vis ever-changing

urban lighting technologies and new lighting applications? How can cities take advantage of new technologies without letting technology determine their lighting vision? These are universally asked questions in cities interviewed.

Furthermore, how can a lighting vision evolve with the changes in the city, in the urban environment, in the public realm, in the long term? Cities have spoken of lighting master plans as essential tools in this effort, and a few have mentioned the importance of identifying and creating a strong nightscape vision, or even a lighting “style” for the city that will withstand the test of time.

Connecting with citizens

Some cities have recognised that there is often insufficient citizen implication and involvement in urban lighting public policy. However, public opinion on lighting is changing and more and more citizens are asking for less light. Conversely, the advent of dynamic lighting, with its changing colours and levels, has also led to an increase in public demand for customised lighting scenarios. New modes of digital communication also mean that people have a voice and they use it.

However, many cities have expressed difficulties in having constructive, quality-focused discussions on light with non-specialists and the general public. Light, while universal, is far from being well understood, and a dialogue between cities and their citizens can only come about through a long-term commitment seeking to build a common language and culture of light.

A delicate balancing act

In the end, the nightscape is the result of a series of compromises between the needs of various urban stakeholders as well as the different priorities of the city. Decision-makers have to find a balance between responding to security goals and lighting norms, adding light to highlight identity and culture, avoiding over-lighting, and remaining on track for energy-efficiency and sustainability goals.

It is also a question of creating a balance between the many sources of light – private as well as public – in the urban space. Discordant architectural lighting on private buildings, lack of integration between facade and street illumination, proliferating media facades, excessive commercial lighting and advertisement signs, and crucially, lack of technical standards and legal support to regulate such issues, are just some of the challenges that cities have to deal with. Indeed, light pollution, an oft-mentioned point in the interviews, has become a crucial issue. Such unnecessary or excessive light is not only an issue from the perspective of sustainability, it is also negative because it detracts from the experience of the city: the

nightscape becomes no more than the sum of all kinds of competing forms of lighting. The vision of the nightscape is blurred, and its positive effects can be impaired.

Raising awareness to create a collaborative, common nightscape

How can cities coordinate the many layers of light – private and public – that make up the nightscape? How can they rally citizens, elected municipal officials and private actors around the common, public and political project that is the nightscape?

This is important because there is a risk: if the nightscape does not speak to citizens and urban lighting does not move up the political agenda, it will be reduced to the purely technical, limited to only metrics and quantities, and in the end, both cities and their citizens will bear the loss.

The key, as several cities interviewed suggest, is to raise awareness, so that all the actors and producers of light, as well as citizens, understand the value of the quality and identity of the nightscape – and their collective role in it – leading to the emergence of a real “local culture of light”. This is the goal of a few cities that are currently working on creating simple layman versions of their city lighting master plans.

Indeed, many of the urban lighting decision-makers interviewed emphasised the importance of improving communication with stakeholders in the city: better communication about their work on urban lighting, better communication on the positive impacts of a quality nightscape, and better communication to engage people in creating and maintaining their nightscape.

Because in the end, better communication will lead to better collaboration, and collaboration is key. As these 15 individuals that have dedicated their careers to light attest: working together within the city, building partnerships, listening and cooperating, can improve the nightscape making it more than the sum of its parts. In cities where there is a common understanding with a common culture of light, an ecosystem of actors working on light, the nightscape is a fantastic result of public policy that drives the city forward. ■

Ode to the lighting designer

Alain Marguerit
Landscape Designer

PERSPECTIVES

Generally speaking, a landscape is first of all a site, a geography where the history of human activity has built landscapes over time.

There are no natural landscapes anymore. In the Anthropocene epoch we have entered into, all landscapes bear the mark of humanity, which has modified and even destroyed the natural balance, including the rhythm between night and day. For example, only four locations in France have the “dark sky” label, i.e. where it is possible to see the complete galaxy of stars.

The urban landscape is not only physical, visual and static; it is also lived in:

- the different scales of the city, from the neighbourhood to the house, from the public to the private sphere;
- its different temporalities: those of seasons, and those of day and night up to the moment of transition from one to another.

A landscape is also a relation to the sky, between the earth and the sky, the horizon line so dear to Michel Corajoud¹. This line that separates the sky from the earth is where the sun sets or rises, the passage between day and night or the opposite.

In the dense urban landscape where the horizon line is often hidden, the rhythm is brought by the change in light and by dawn and dusk. If the horizon line is apparent, dawn and dusk are not physically manifest; they are magical moments that everyone experiences and describes differently, either with joy, anxiety or relief.

This transition from day to night and back belongs to the lighting designer; it is the moment when the natural light of the sun gives way to the artificial light of men. This is the time when one landscape gives way to another, not so much in the physical structure of space but in the atmosphere, in the life of the different places (and their use). When human activity slows down and stops, the nighttime landscape becomes that of silence, of muffled sounds and discreet footsteps.

A nightscape is a creation, and the main demand is security. If it is legitimate, security isn't created by a high number of lux on the ground but instead through the creation of a nighttime landscape that has its own identity.

A lighting design project must ensure there is continuity in the transition from day to night and be in tune with the site's characteristics, whether it is for security or whether a specific lighting design highlights some buildings and subjects, etc. As for any urban landscape project, a lighting design project must be contextual.

It must resonate with experience, uses and activities of the place. At daytime, these are easily identified by the distribution of businesses, services, housing, etc. Obviously, nighttime activities and experiences are different.

When shops close at night in a pedestrian area, there is a lack of activity, an “emptiness” which is deemed unsafe. On the other hand, other venues become very active, and the time in-between has its own rhythm, that of a city that goes to sleep. The strength of a nighttime landscape lies in creating continuity (which ensures a feeling of security) between these opposite experiences.

Beyond these general principles, as we have previously pointed out, the quality of a nightscape and the one we most admire, is the transition from day to night and night to day. It is dusk and dawn.

It is the moonrise that lights up the night and the sunrise that lights up our days. Apart from these two magical moments, the quality of a nighttime landscape is defined in relation to the degree of intensity of the moments lived at night, considering that the optimal level is that of human non-activity, of human silence; night thus becomes that of “the non-human”, the other life that Philippe Descola² calls “the existing” in its development between nature and culture.

In absolute terms, even in an urban environment, the quality of a nighttime landscape is that of the discovery of the sky and its thousands of stars. But we can enjoy it when there is a “light silence” so dear to Laurent Fachard³.

This light silence is needed to be able to create a reassuring place in the city where we can admire the sky; to connect with what is beyond, to see what is always there, and to do so without human intervention.

In such moments, in this “light silence”, we can relate to nature and “the existing”. It is the best of creation, which here we owe to the lighting designer. ■

1) Michel Corajoud, (1937-2014), a French landscape architect awarded the Grand Prix of landscape architecture in 1992 and Grand Prix of urban planning in 2003.

2) Philippe Descola, (born 19 June 1949) is a French anthropologist known for his deconstruction of the concept of “nature” in the book *Beyond Nature and Culture* (2005).

3) Laurent Fachard, French lighting designer known for his pioneering work with light in landscapes and urban spaces.

The urban nightscape

François Bregnac

Architect and Urban Planner

A landscape reveals the urban society that is constantly transformed by the long term temporality of history and its values whose intertwined elements define its personality: a visual and geographical identity, a morphology shaped by the site and its architecture, emblematic historical and mythological figures, individual and collective mental representations.

Over the past thirty-odd years, cities have draped themselves in light, in a context of international competition (light is a key promotional factor), which can lead to homogenisation. However, if no city is like another because of its own genius loci ("spirit of the place"), then its own, original personality can be further revealed.

The art of light

Light vibrates "in line with" the thought and arts of poetry, painting, literature, music, theatre performance, cinema... The nighttime landscape is revealed in these connections where colours, music, and visions stem from the same inspiration. Sometimes, when transfigured by celebrations, light opens up the night's world of magic, mystery and secret, as in Arthur Rimbaud's *Les Illuminations*.

The nighttime portrait of a city is an allegorical and intimate landscape whose personality is revealed by the brush of light.

For example Lyon:

Topography. The city's backdrop and outline in its river and hills landscape reminds us of a large theatre stage; the lines drawn by the rivers underlie the stability of the scene. Lyon's frontal and profile pose is highlighted by the majesty of the monuments and embankments.

Audacity of character. The city lies in a natural site exposed to rockslides from the hills and floods crossing the rivers to conquer the marshlands of the confluence and of the plain.

Fruitful humanistic dialogue. The hills of Fourvière and Croix-Rousse are testament to Lyon's spiritual and social work.

Laboratory-city. The spirit of gentleness and association links facts to ideas and ideas to facts.

Identity, visible through its emblems of health, rivers, light, textile, solidarity, gastronomy...

Lyon's light signature is inspired by the city's tradition in which the Marian celebration, popular festivities and the 8 December festival coexist. It is all the more beautiful that light borrowed from elsewhere is added to the "tableaux" of the tales of Lyon.

Light at the service of (nighttime?) urban planning

Light is one facet of the city's beauty. In France, embellishment is a century-old, secular tradition of urban art, which flourished in the 18th century and under the Second Empire and was then lost in the Functionalist period of the post-war Glorious Thirty. But in the 1990s, urban planning recovered the embellishment of urban spaces. The Lyon agglomeration thus conducted a global policy that was triggered by lighting.

The (pioneering) Lighting Master Plan of 1989 and that of 2004 focused on the scenography of the heritage landscape and later the (sustainable) and nuanced atmospheric lighting of the city's various neighbourhoods.

The first Fête des Lumères light festival, on 8 December 1999, added an artistic dimension, which was followed by the creation of the LUCI network (in 2002) and the Cluster Lumière (in 2008).

On 5 December 1998, the historical site of Lyon was listed as a UNESCO World Heritage Site. It was a recognition of the city's policy that enhances the relationship between the city and nature (the river and hills setting and the reconciliation between residents and rivers), the harmony of the urban landscape (the urban skyline and the architectural and landscape identity of the different neighbourhoods), and the reappropriation of public spaces.

Changing scale: why not broaden Lyon's Lighting Master Plan to the whole Metropolis of Lyon and thus reveal the identity and solidarity between all the territories of the metropolis?

Cities are aware of the environmental emergency and already sense that public health will be at the heart of urban planning. And for tomorrow, nighttime urban planning? We think of the city only halfway, during day time and under natural light. What about night? To consider the city at night – differently – when light will take a leading role in organising the conditions of activities. ■



AMSTERDAM

THE NETHERLANDS

CONVERSATION WITH

Hans Akkerman, Head of Urban Lighting, City of Amsterdam
and **Paco Bunnik**, Chief Urban Designer, City of Amsterdam

AMSTERDAM

Population: 880 000

The Dutch capital Amsterdam is famous for heritage comprising 17th century canals, many museums and theatres as well as its open and tolerant cultural climate. It is also the engine of the Dutch economy. The municipality directs the public lighting but maintenance, engineering, fault handling and installation are outsourced.

Number of lighting points: 135 000



Hans Akkerman

Head of Urban Lighting,
City of Amsterdam



Paco Bunnik

Chief Urban Designer,
City of Amsterdam

**The nightscape of
the city is a reflection
of its nightlife.**

AMSTERDAM

THE NETHERLANDS

“City nightscape”, what does this term mean to you?

P. Bunnik: A city nightscape is the literal observation of the cityscape by night. Not as a mere image but a fluid spatial entity and energy. A spatial and ever-changing play of light and dark.

The nightscape of the city is a reflection of its nightlife, whether it is a sleeping street, a silent park or a thriving and bustling nightlife area. The fact that it is a city also means that the nightscape encompasses an extra layer of emotion, of culture, of city life. And in that sense, thinking about a nightscape is a smart way of thinking about the way you want your city to be.

H. Akkerman: For me the ideal nightscape is different for every city. Amsterdam differs in many respects, not only in terms of architecture and urban design, but also in terms of history and culture from – for example – Hong Kong. My view is: look at other cities, but determine what works best for your city and what needs your city has.

Could you describe some of the main characteristics of the Amsterdam landscape?

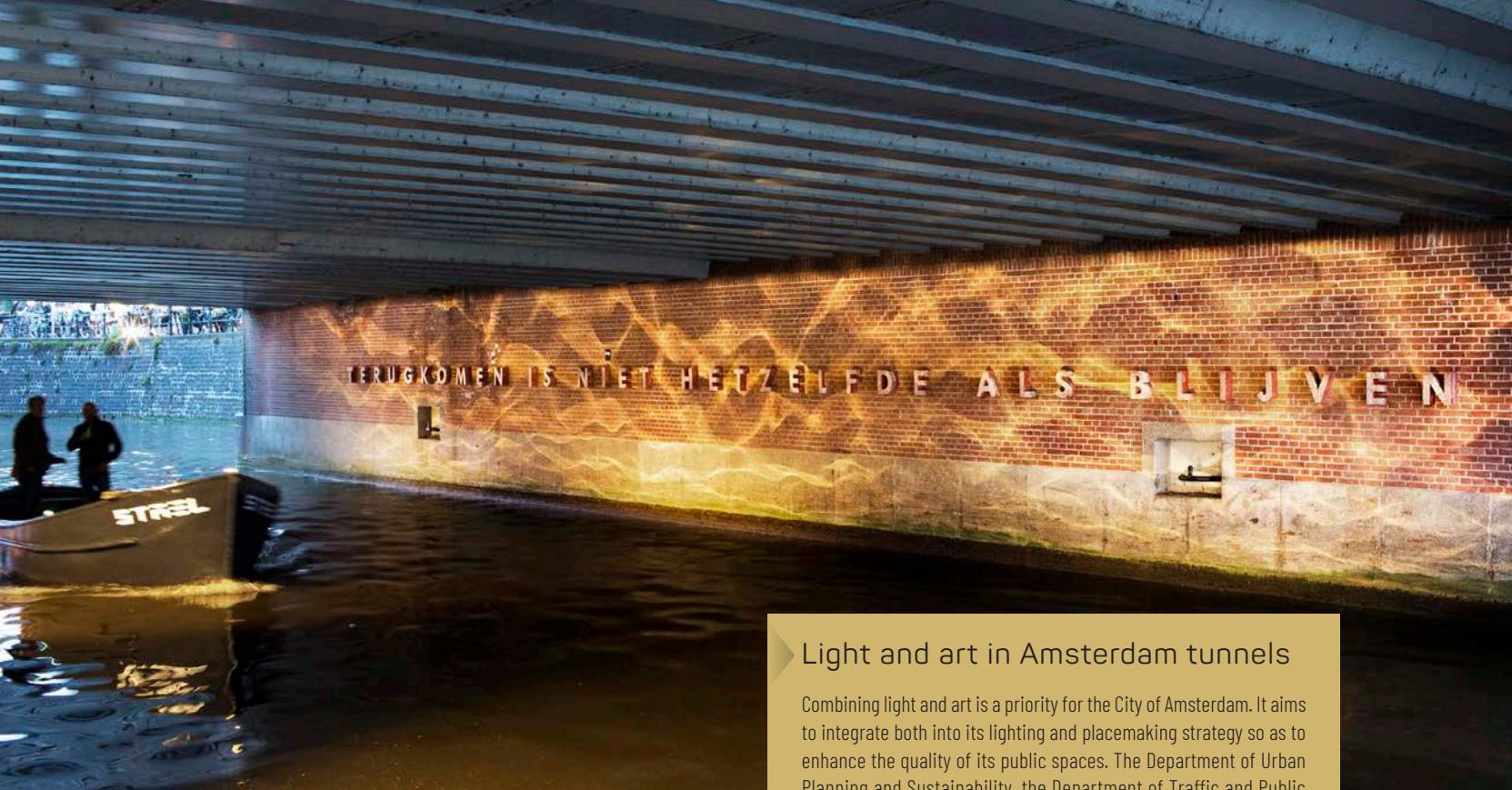
P. Bunnik: The daytime landscape of Amsterdam is interlinked with the city’s urban appeal and image. Some of the key determinants of this are its recognisable architecture unique to different city districts and areas, the abundance of water and trees, and very importantly, the materialisation of the baked-brick paved streets and sidewalks. There is a strange kind of timeless beauty when you learn to recognise these patterns which shape the image of Amsterdam.

The daytime landscape is nowadays arguably more readable and perhaps more appealing than its nighttime landscape, although the reflection of lights on the water and the beautiful architecture at night has a particular and mystic quality to it.

Tell us about the creation of the city nightscape of Amsterdam...

P. Bunnik: The Amsterdam nightscape, strangely, with exception of the lighting in the UNESCO Canal District, has no clear distinction compared to other cities. At the moment, there is no major strategy or master plan to make the city more readable by a nightscape approach with lighting.

However, in the last few years, with the development of our new light policy, we have been moving towards the notion, which is gradually developing within our planning community, that a nightscape is important for the image of the city, for the wellbeing of its inhabitants and visitors, and for the psychological effect the nightscape has to offer.



For example, in the last five years the City of Amsterdam has been increasingly experimenting with working with light artists or lighting designers to really improve the quality of specific areas such as underpasses and blind facades by integrating light art in the public space.

There is as yet no specific notion of actually controlling the nightscape by a lighting master plan, but to be honest, we are considering it at this very moment. However, we do have a clear vision on illuminating architecture and art pieces, and we are designing and implementing new public spaces with ever more awareness on integrated lighting design.

What would be your vision for the Amsterdam nightscape?

H. Akkerman: Firstly, I think that for Amsterdam, there is not one single nightscape. The city has existed for almost 750 years: Amsterdam therefore has neighborhoods with very different historical and urban characteristics.

Light and art in Amsterdam tunnels

Combining light and art is a priority for the City of Amsterdam. It aims to integrate both into its lighting and placemaking strategy so as to enhance the quality of its public spaces. The Department of Urban Planning and Sustainability, the Department of Traffic and Public Space, local artists, lighting engineers and urban designers work collaboratively to carry out permanent light art projects.

The city has recently directed its efforts at underpasses, which are commonly seen as unpleasant or even unsafe for pedestrians and cyclists. In 2018, two creative lighting projects were implemented on selected underpasses in the city – some of which featured existing artwork – in order to make them more attractive.

The Haringpakkersbrug underpass that runs alongside a canal near the Central Station is one of them: with its very low ceiling and dark empty spaces between large pillars, the pedestrian passageway was dismissed as a dirty and unsafe place. Its new ceiling lighting armature utilises the gently moving water's reflection to create a soothing and appealing visual effect by night and day. It creates the impression that the surface of the water lights up the passageway and its artwork.

The bustling underpass between the Hortus Botanicus and the Heritage museum was also considered a poorly-lit spot and underwent a transformation designed by the Happy Tunnel Collective: the playful lighting effect *Here Comes The Sun* reproduces the sun's rays and illuminates the tunnel using dynamic lighting. In addition to creating a safer and more playful ambiance, the new lighting has given the tunnel's artwork an extra dimension.

The nightscape should have multiple facets like the city itself.

It would be ideal if all these different neighborhoods and characteristics could be reflected through the city's nightscape, which would have multiple facets like the city itself.

Looking specifically at the city centre with its medieval and 17th century characteristics, the nightscape should be subtle and reserved, serving the special architectural and urban quality of the area. The key word is integrated lighting: lighting that takes into account mutual coherence.

Tell us more about the lighting in Amsterdam's city centre and Canal District...

H. Akkerman: The lighting in Amsterdam's 17th century UNESCO World Heritage canal ring dates back to the 1950s. Consisting of the illumination of more than 75 monumental bridges in the old centre of Amsterdam, this lighting is still iconic today. It contributes greatly to the unique nightscape of the canals and is significant for evening tourism.

A decision will soon be made about the future of these illuminations. Overall replacement will mean a substantial investment. The question will be whether this lighting should be continued in this form, and at these locations, or whether a different concept or application should be chosen. Opinions about the concept vary widely. In addition, there is a wide debate about the tourist bustle in the city centre. Of course, aspects such as sustainability and ecology are also involved.



Do you have information on how citizens perceive Amsterdam's nightscape?

H. Akkerman: We recognise the need and necessity to get more information on how inhabitants view and live the city nightscape. That is why we organise periodic evening walks. These walks take place following requests, and sometimes complaints, regarding the lighting of the public space. They involve a large range of people: residents, municipality officials, police and other interested parties.

In addition, our new working method for each project, which involves making integral lighting plans with all parties involved, also provides a lot of information and citizen input. For example, the discussion about the future of lighting the bridges in the Canal District is very broad with all stakeholders, including citizens.

Could you tell us more about your approach to developing Amsterdam's nightscape?

H. Akkerman: It is crucial to recognise that in public spaces, in addition to functional public lighting, there are various forms of private lighting in various sizes and effects. Of course, the necessity of these lighting forms might be justifiable. However, the consideration of the quality and the large, more global picture is sometimes lacking.

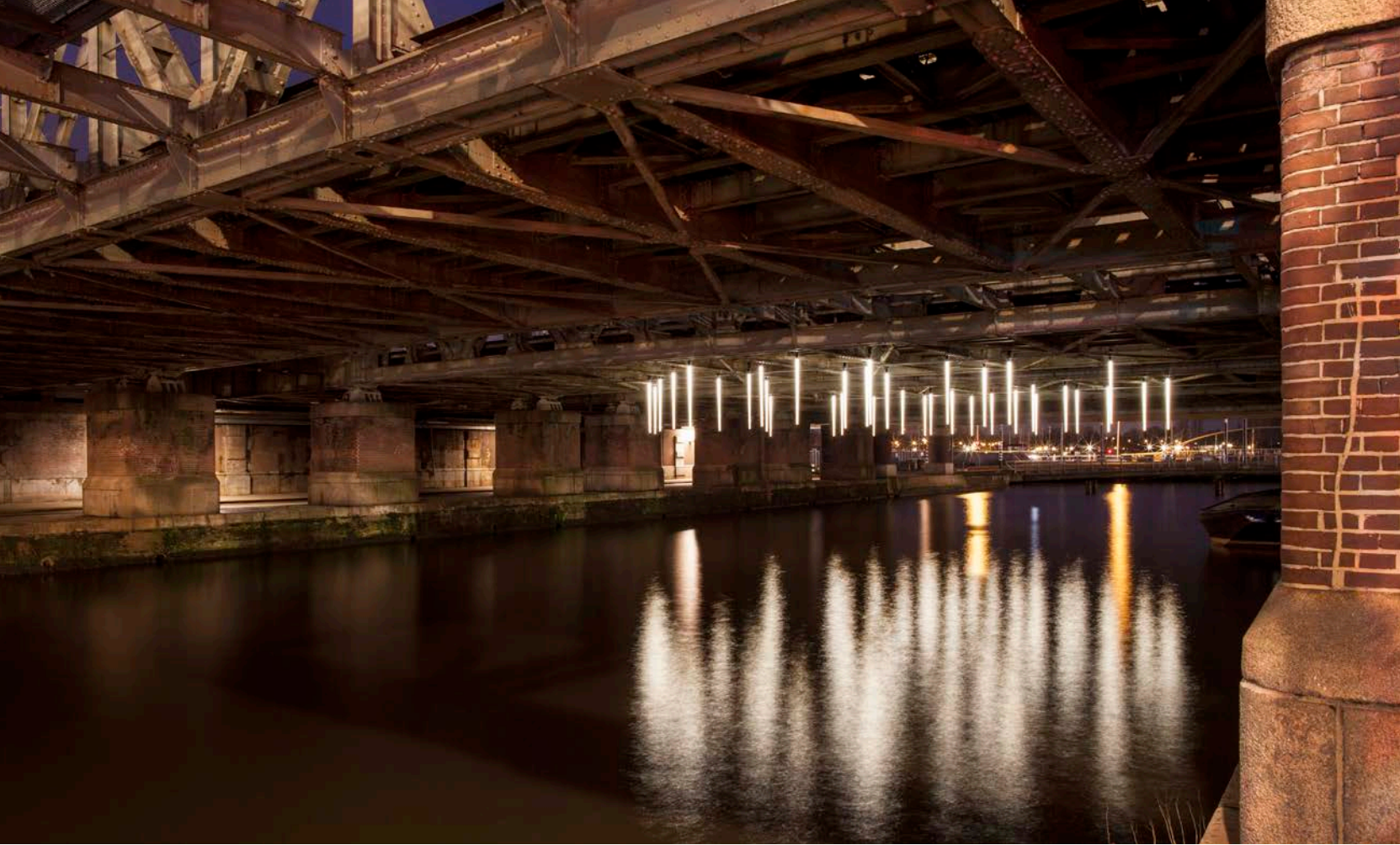
Integral lighting design is based on critical analysis of the existing situation and an overall lighting vision in which all forms of lighting are involved. This requires that the municipality makes a lighting design concept with all responsible parties. So the condition for success is commitment from everyone, not just the municipal government.

In Amsterdam, a lot of lighting is not necessary. Awareness about the adverse effects of excessive lighting needs to be strengthened. When we make integral lighting plans for a location, they can help prevent or reduce unnecessary lighting. That is why the City of Amsterdam has actively started with integrated lighting design in close consultation with residents and entrepreneurs.

The big challenge has been to arrive at an integral design of the nightscape. We have started with important historical, cultural and tourist locations, such as the Dam Square in the centre of the city with the Royal Palace, National Monument, New Church and several important private buildings.

So for example, for the Dam Square we started with an integrated approach including a thorough analysis of the current light situation and image of the space. A lighting designer played an important, independent role in this. On the basis of this analysis, there has been a broad discussion with all parties involved about the current image quality. Our first experiences with this method have shown that agreement can be reached relatively quickly about which parts of the lighting need improvement. It has also been found that it is essential to directly involve advisory bodies such as the aesthetics committee and heritage monument groups in these discussions.

**A successful nightscape
needs commitment from
everyone, not just the
municipality.**



Sometimes there is a lot of competition between different forms of lighting.

Tell us about the main challenges related to your city nightscape...

H. Akkerman: The public space of the city is often referred to as “our common living room”. Everyone uses it. Everyone has their own goals and ways of using public space. The design of the public space must respond to these different needs and interests.

The importance given to the use and design of the public space has rightly increased over recent years. This translates into, among other things, professional design of public space, the choice of high-quality standard materials, and increased participation of residents and entrepreneurs. However, too little attention is paid to the nightscape in the design. We still have to better integrate questions of what the design of the public space means for good and pleasant use in the evening and at night.

The various lighting elements and applications are not mutually coordinated in practice. The functional public lighting provides a basis; but it is all the other forms of lighting – like advertising, shop windows, media facades, etc. – that determine the end result of the nightscape without taking each other into account. Sometimes there is a lot of “competition” between these different forms of lighting.

Such unnecessary or excessive light is not only an issue from the perspective of sustainability and reducing light pollution, it is also negative because it detracts from the experience of the city: the nightscape becomes no more than the sum of all kinds of competing forms of lighting.

What means do you have to manage these different forms of lighting?

H. Akkerman: On these issues, the municipality is advised by a committee of aesthetics called the “Welstand”. Our main legal framework is the environmental legislation: if there is excessive light, the city can take action.

In addition, a license is required for lighting on large private buildings, advertisements, roof tops, media facades or other screens. However, small private property owners or parking lots do not require a license for projections or gobos.

We also have qualitative requirements which are stricter for classified buildings or monuments. There are approximately 8 500 such buildings – both privately and publicly owned – in the city. Out of these, around 350 are illuminated. So in these cases for example, no RGBW is allowed and the colour temperature range must be within 2 700 - 3 000°K. But in reality, many “illegal” private lighting schemes on monuments can be observed.

As I mentioned before, we are also trying to work more collaboratively with private stakeholders. An example of this is a pilot project that we are implementing on Reguliersdwarstraat street. This project was initiated because shop owners wanted the street to be illuminated in a more attractive manner to encourage nightlife, while at the same time reduce nuisance for local residents. That is why we are testing RGBW combined with dimming in classical street lighting to create all sorts of colours. We encourage experiments influencing behaviour with such use of light. ■

▶ **Lighting pilot in Reguliersdwarstraat**

The Reguliersdwarstraat lighting pilot project marks an attempt to develop further collaboration between public and private stakeholders and create a homogeneous and citizen-focused lighting environment. The street belongs to the UNESCO heritage list, which resulted in an additional challenge: the traditional lighting fixtures had to be left as they were.

Collaborating with local residents and shops, Marco de Boer from Primo Exposure designed for Reguliersdwarstraat street a lighting system combining RGBW lighting and intelligent dimming to foster and support a busy nightlife while improving safety and keeping nuisances low.

Lighting levels and colours were designed to impact pedestrian wellbeing – acting on psychological and biological levels – and crowd activity. The light is warm during opening hours and colder after closing hours so as to encourage people to leave the area. All luminaires are equipped with a wireless connection and can be controlled from any location using a SIM card modem. Special colour schemes were also created for occasions such as national bank holidays, Christmas and sponsored events. This pilot project is currently being evaluated.



ANTWERP

BELGIUM

CONVERSATION WITH

Michel Gerits, Light Plan Coordinator, City of Antwerp

ANTWERP

Population: 500 000

The city of Antwerp is the third largest city in Belgium and lies on the River Schelde. It has an extensive port with important petrochemical activity. The city is a world centre of the diamond trade and has a very rich historic centre. The municipality is responsible for public lighting, with Fluvius, the regional energy agency in charge of operational management.

Number of lighting points: 55 000



Michel Gerits

Light Plan Coordinator,
City of Antwerp

A nightscape is about reflecting on what we have and what we want to show.

ANTWERP

BELGIUM

In your opinion, what is a “city nightscape”?

A city night landscape is a total, nocturnal image formed by the merging of various urban elements observed from a certain point of view. Seen from afar, a city nightscape becomes the dividing line between the earth and the sky; the buildings of the city pull the landscape out of the earth.

A good quality nightscape is the result of a conscious lighting scenography, in which different elements are hierarchised and unwanted lighting controlled to achieve a nice harmonic whole. With light, you can show the details of the city; you guide people’s eyes where to look, where not to look.

A city that works on its nightscape translates its urban culture into an overall picture and starts a dialogue with its residents. It’s about reflecting on what we have and what we want to show. Not just buildings, but also the culture of the city. What is Antwerp? Who are the people of Antwerp? What is important to them? The priority that a city gives to specific elements in its overall nightscape reflects this discussion.

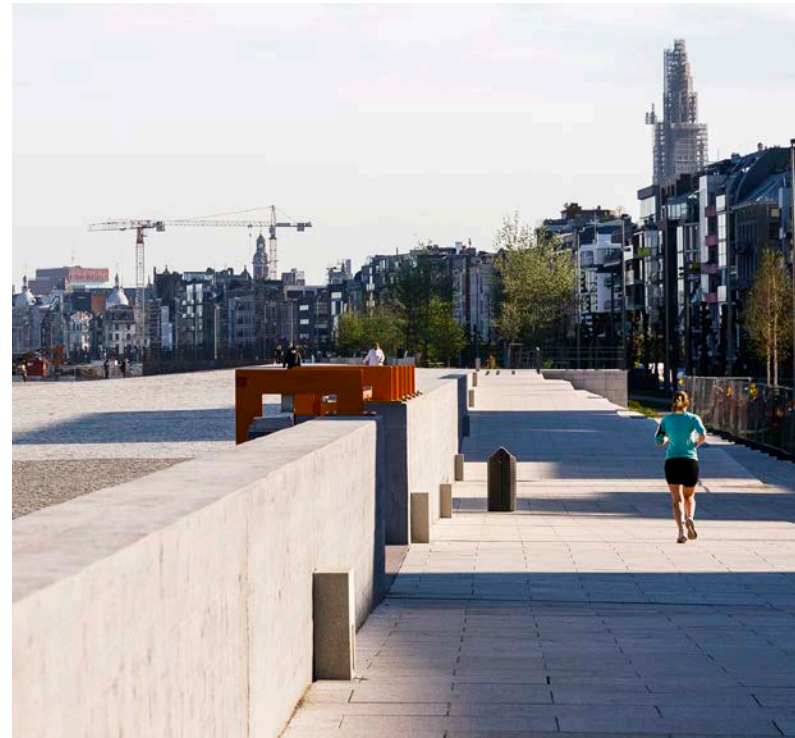
A city landscape is by definition changeable, the perception of the landscape is always different: just like a day landscape is always different due to the influence of surrounding elements (the strength of the sun, the colour of the clouds, etc.), the night landscape also varies. Not because of the use of dynamic RGB lighting and dimming and other lighting management technologies. It varies because the nightscape also consists of changing lights in homes. This is how you can see the city “living” through the lights of the houses in the nightscape. They bring an important diversity to the nightscape.

In fact, the city nightscape is made up of different levels. It is not only composed of one scenography which is decided by the city and the public officials and managers. It is also composed by the people who illuminate their gardens or homes or properties, they are also participating. So from big to small – all add to the total nightscape.

Tell us about the Antwerp landscape day and night views...

All areas of Antwerp are anchored to the River Scheldt. The river banks offer beautiful views, from both the north and the south, to the centre of the city. The Antwerp Port is also developing along the river, to the north-west.

We have several well-known typical day and night landscapes. There is the view from the quay where the winding Scheldt reveals a vast landscape. The 123 metre-high cathedral tower is a permanent beacon in the city view from here. We can also see the new South District with its modern tower buildings and renovated quays.



When within the city, the cathedral tower dominates the perspective of all the streets and squares. The panoramic view of the Grand Market with the Town Hall and the Cathedral is of course one of the most important postcard images of the city.

We also have the view of the port with its typical industrial buildings. In addition, there are several windmills that mark the panorama. In the port area, the bright lights of the petroleum industry are also part of the typical night scene. Unfortunately, these “lights of the Scheldt” contribute to major light pollution: if you approach Antwerp from the many motorways, the city looms from afar in a cloud of light.

Tell us about the nightscape of Antwerp and how it is constructed...

The priorities in the night sky view for us are the Cathedral and all the different views discussed above.

As I mentioned before, a city night landscape is always directed. If a city wants to get a grip on the end result, it must draw up and enforce clear guidelines.

Within the City of Antwerp, our Light Plan – made in 2012 with lighting designer Susanna Antico and landscape agency Stramien – is the guide, determining the total quality and hierarchy of the various elements in the nightscape.

**You can see the city
“living” through the
lights of the houses in
the nightscape.**



The Light Plan provided a clear analysis of the city and translated this vision into concrete guidelines. We have a layered approach to lighting in the city. A first layer builds the basic lighting in different zones of the city. For example, we have separate guidelines for residential zones, industrial zones, core areas, green landscapes, etc. A second layer follows the axes that traverse these different zones. The third layer enhances the atmosphere by illuminating specific buildings, elements and viewpoints.

Our urban lighting also works on three levels. The first level is the basic lighting, which you need to illuminate the streets and pavements. The second level of the Light Plan goes into the big roads and they are lit in a different colour temperature with higher lamp poles. The third layer is that of the city nightscape.

The sum of the three layers result in a total, harmonious picture. It is important to always consider the three layers, and not one layer in isolation. So even just one in-ground fixture on a street is still important as it impacts the perspective of the small city landscape of a little square.

The start of a conscious re-evaluation of the night landscape of the city was marked by the first phase of the Light Plan realisation – the lighting of the Town Hall with the Cathedral and the Grand Market (Grote Markt) in 2018.

The Light Plan is important because not only is it the guidelines for the nightscape, but it is also a political document. Even though it might not be read cover to cover, just the idea that we have a Light Plan and that there are people like me and others who are following those guidelines, that is in itself more important.

It's something in the minds of politicians, this Light Plan, it ensures that we follow one vision and they see it too. So basically, we cannot do without the Light Plan. Without a Light Plan there is no active construction of the city nightscape.

What was the situation before the establishment of the Light Plan?

Before, in the public lighting department, light was a technical utility that was handled independently from urban renewal plans. Also, there was hardly any coordination between design and execution. Today, thanks to the Light Plan we are definitely working in a more coordinated way with the designers, and in alignment with the planning.

Our city's perspective has evolved over time. Maybe that's something on which LUCI can help us and other cities too: how to evolve even more. How do you look at the city differently, do your job differently? For example, even this interview about the city nightscape made me think about things in a different way.

Also, how can we help cities make the mind shift from the technical, engineering approach to lighting, to an architectural approach? I'm an architect and 30 years ago when I was at university, I don't recall that we had training on lighting. And now light is part of the total experience of architecture. I think we need to work on bringing about that mind shift to that other idea of what light can be.

How did the political will to build a city nightscape via a lighting plan come about?

We started with the Light Plan because we really needed that. We needed the format, we needed the guidelines, we needed the analyses. And now everything is put on paper, and that is essential.

It was only after the approval of the Light Plan by the City Council that there was a mind shift and there was more money in the budget for lighting. So we needed this shift from thinking that we have to light the street for functional purposes only, to thinking that we can illuminate other things in the city. And now we are rethinking the lighting in the entire city. It's a process which is still ongoing.

We are still working on changing people's view of urban lighting even more. I'm trying to convince Aldermen, city officials and project leaders to see light as an integral part of the design process – be it for a new building or a new square – and not as something to be added at the end. If we designed buildings with their night view in mind, we would open up so many possibilities. The architects would be thinking about how their building could integrate into the nightscape.

The Light Plan is not only our nightscape guideline, it is also a political document.

We need to encourage cities to make a mind shift: light is not for functional purposes only.

If we designed buildings with their night view in mind, we would open up so many possibilities.

We want to work on the scale of the nightscape where people can see it and feel it from within the city.

Does your approach to the nightscape vary for different areas of Antwerp?

It is a question of different scales. We have quite a few big perspectives, like the harbour and city centre I mentioned, where you have the big view of the cathedral. But there is only one place you can see that whole picture. From the minute you go into the streets, the perspective changes and the panoramas are smaller.

If you go into the neighbourhoods where people live, there are smaller spaces directing the panorama. We have lots of nice small squares with churches or buildings that are only visible from where you stand, which are a panorama and nightscape on their own.

In that sense, the point is not to create a nightscape that you see only from afar, when you fly over the city. That's not the scale we want to work on. We want to work on the scale of the nightscape where people can see it and feel it from within the city. Of course, we do it for the people.

You have a lot of heritage buildings in Antwerp. What is the link between the city nightscape and the heritage of your city?

In Antwerp, we are proud of our many heritage symbols and proud of the city. The cathedral, the central station, the opera, the lights of the Scheldt are all long-standing elements that mark the perception of the city in the heart of the people. There is a big emotional connection. And so with light, we put all the heritage in perspective.

When the city opened the new lighting of the cathedral in September 2018, it was the talk of the town. Many people attended the inauguration, everybody wanted to see it because it was important for them. People are very proud of what's happening. Everybody thinks that my job as the city night landscaper is a very important job!

Could you tell us how your public lighting department works?

We differentiate between who owns the lights and who maintains them. Until now, the city owns the above-ground installation of public lighting. The company Fluvius manages the lighting and they use a series of standard luminaires and technical solutions.

Through control systems, the new street lighting is dimmed to 50% from 11 pm onwards. During the week, the architectural lighting is completely extinguished from 1 am until sunrise. The hours vary on weekends and public holidays. For example, for the Feast Day of St. Mary, the patron saint of Antwerp, lighting designer Susanna Antico has programmed a special lighting scenario to highlight the many Maria statues in the city centre.

The Mayor and Aldermen of the city and districts make all decisions prepared by the administration. Within the city administration, a Light Cell has been developed with both technical and design profiles. Both points of view are important to provide a total solution to the issues of urban lighting management and innovation. Through careful communication between all players, an overall image is obtained, in which the technical solution-oriented approach is in accordance with the desired image quality.

The Antwerp Cathedral's award-winning lighting

The highest Gothic building in the region, the Cathedral of Our Lady is a focal point and a prominent landmark in the Antwerp skyline.

The award-winning lighting scheme for the Cathedral was designed by Susanna Antico Lighting Design Studio in line with the city's Light Plan. LED floodlights were carefully concealed in the facade of the building so that they remain unseen during daytime. The lighting designer's challenge consisted in enhancing the shapes and volumes of the cathedral while avoiding any glare effect. A specific temperature and brightness combination was thus assigned to each part of the monument from the ground up, sharpening its rich details and its height.

The scheme comes with a DMX controller so as to better control energy consumption and to offer a diverse range of ambient lights which can be matched with special events and holidays. Although the number of luminaires has increased, the new lighting scheme reduces energy costs by 40%. The project was rewarded with an Award of Excellence from the International Association of Lighting Designers (IALD).

Tell us about the main challenges related to your city nightscape in the short, medium and long term...

In Antwerp, the main challenges are linked to the planned developments in the city: the Scheldt quays are being renewed due to the expected sea level rise; the city's high-rise bill now allows higher buildings that will shape the landscape differently; various wind turbines in the port have recently become a new element in the landscape.

Of course, there is the challenge of LED-ification. It can be very dangerous because it's going to move very fast in the next 10 years, everybody will sell LEDs, they will tell you that all the lights should be changed into LED, and that's going to take a lot of budget. If we go too fast and let the engineers move forward with a one-on-one change to LED, then we miss the opportunity to get a new, better illuminated city. If we don't ask to remove poles and reposition them, then we're missing the boat. So I'm a little anxious about that. It's really a challenge to keep the communication going and to focus on quality of life and not quantity of lights, and not only on LED and energy savings and CO₂.



It's really a challenge to keep the communication going and to focus on quality of life and not quantity of light.

You mentioned the challenges linked to LEDs, but do you see any particular challenge or opportunity arising in terms of dynamic lighting?

Yes, now we are seeing the evolution of "smart lighting" and that's a challenge to deal with and figure out, because you have so many possibilities and you need to figure out what to do. That's a topic that LUCI has to work on, it will be very helpful for us.

But also, speaking of dynamic, as in changing colours of lights on buildings, that can be an issue too. How do we want to use colours? At the moment, in Antwerp, we have made a clear decision to not put colour on the cathedral, mainly as it is a religious building. And even for Christmas, we also say no colours on the tower. It's a commitment and I think it's part of the culture.

But in Rotterdam, at the LUCI City under Microscope conference, we saw the red colour on the bridge, which is very nice and harmonious in the total landscape. So I'm not against colour, but I think we should try to make it harmonious.

I'm also thinking of the Illuminated River bridges in London in which several bridges on the Thames will be linked, and where they plan to use different colours I believe. But it looks like there is a story, and I think that's very important: to tell a story.

Tell us about the challenges you face linked to private lighting and the nightscape...

The municipality's Light Cell also provides advice for private lighting, so that it is in coherence with the Light Plan. But lighting levels can only be enforced if the city also has an active role in managing the lighting. And currently, there is no active adjustment to light pollution or deviant lighting by the city administration. In fact, at the moment, the political will is against making any hard regulations about this. The opinion is that if somebody wants to put lights, then they can. There is no permission needed.

But actually, we do lots of private lighting ourselves. For example, we did the Grand Market (Grote Markt), which is the square surrounding the cathedral, together with 70 or more private buildings. We invested in everything. We invested in the materials, the placing, and we also paid for the electricity afterwards. The private owners just had to give permission. And in fact, they didn't even have to give permission because we have a regulation here in Antwerp that states that the city can put elements for public interest on any part of the facade.

We went to private shops or homes and explained what we were doing. We tried to discuss and correct their lighting issues, like removing excessive lighting, or putting different more adapted lights in place. But of course, it takes a lot of money to follow that through. And you can do that for a place like the Grand Market because it's a small but very important square.



In the opposite case, if a private building owner wants to light their facade in multicolour, can you do anything to prevent that?

If you go back to the project of the Grand Market, we tried to convince building owners to switch off their lights on the higher part of the facade, so the panorama of the whole square was corrected. But we did not ask them to do that on the ground floor because there are shops and cafes and they have lots of their own lights.

So if you go there now, you can see that the ground floor is very diverse in colours. But this is because we decided that we had to accept that for the ground floor and that we would focus on correcting the upper facades of the buildings. That is of course in a small scale. If you translate that to the scale of the whole city, it's going to be more difficult.

Actually, all the changes and future developments in the city are making this easier to deal with in a way.

We want to communicate more about the Light Plan so that everyone is aware of it.

How will the future developments in the city affect the nightscape?

We are redeveloping some parts of the quays, it's going to be a very important renewal linking the river and the city. So from now on, we can illuminate those areas correctly. In twenty years we will have rebuilt more of the harmony of the whole landscape. So if you look on a larger time scale it's going to be easier to correct things.

Also LED-ification is going to be a good instrument because people really want to change old lights into LEDs. When we see that happen, we can try to talk with them. So I think we need some long-term thinking.

For example, we are talking to the cafes out on the riverbanks. They are inspired by what we did with the cathedral and the Light Plan, so they are going to collaborate with us. But it takes time.

Of course, you can't do everything. There are decisions to be made: what to light, what to prioritise and where to allocate the lighting budget.

What instruments or tools do you have to help you manage relations with owners of private buildings?

In environments where we have made a specific lighting plan, we want to motivate private owners to create an overall illuminated whole together with us. One of the instruments we are developing are agreements with private building owners in which the city pays for a part of the electricity and the lighting fixture maintenance fees. That way the private owners illuminate their buildings every weekend or night and positively contribute to the nightscape.

This is also the way we want to deal with new buildings. For example, one of the buildings we're working on now is the big central station in Antwerp, which is badly lit with old lighting technology. We have talked to the station authorities and the idea is that the city will make the lighting design and invest in the lighting fixtures that are on the public space, and place the fixtures on the building in close cooperation with the station authorities. Since the lighting design is made by us, we can steer the design and illumination levels and all the other elements. So it's all about trying to work together.

Have you had examples when property owners come to you for advice on lighting design? Is there a way for the city to give guidelines on this?

Yes, there are two examples. Just after we did the Grand Market, there was a private investor who came to us and asked us how his lighting could be as beautiful as ours. We gave him some advice and orientation and he was very happy with that. So there's potential in that, we can wait for people to come to us and ask to invest.

We were also thinking about communicating more about the Light Plan so that everyone can better understand it and be aware of it.

Also, another example is when people come to the city with questions on building regulations for permits. Since lighting and the Light Plan fall into the public domain, this could be one of the items for discussion, and a potential way of directing private lighting.

In an ideal world, what would be the one thing that you would like to have to better manage the city nightscape of Antwerp?

I talked a bit about it before, but I think that it is strange that there are not a lot of education options to learn to be a lighting designer for the city nightscape. You can learn to be a lighting designer to illuminate buildings or spaces. But there don't seem to be many opportunities to learn to be a night landscape designer. So I think that landscape views should get more attention in education on that level, like a diploma or something, to add to your skills.

I think it's nice to have that on your business card: What's your job? I'm a nightscape designer. ■



BOLOGNA

ITALY

CONVERSATION WITH

Federica Legnani, Architect, City of Bologna

Roberto Di Cecco, Lighting Engineer, City of Bologna

BOLOGNA

Population: 391 400

Capital of the Emilia-Romagna region in Italy, Bologna is a major agricultural, educational, industrial and financial hub. It is known for its well-preserved historical centre and long porticos, and is home to one of the oldest universities in the world. The municipality is responsible for the public lighting, with an external contractor handling installation and maintenance.

Number of lighting points: 50 000



Federica Legnani

Architect, City of Bologna
supported by

Roberto DiCecco

Lighting Engineer,
City of Bologna

BOLOGNA

ITALY

What is a “city nightscape” in your opinion?

A city nightscape is what is created when the sun goes down, it becomes dark and the city is illuminated by artificial light, highlighting some things that are not so evident during the day. A good nightscape is one that manages to find a balance between functionality, public security, energy-savings, and limiting light pollution.

Tell us about the Bologna landscape in the daytime...

A characteristic feature of the historical urban landscape of Bologna is the massive presence of its porticos, which are covered walkways along the main buildings within the city centre. We have more than 62 km of them, 42 km of which are in the city centre. These porticos are part of the city’s heritage; we are currently applying for inclusion in UNESCO’s World Heritage List. They are unique to Bologna and create a very special feeling in the city. The porticos shelter from sun and rain, but at the same time, they block the view of the facades of surrounding buildings and churches.

A branch of this sequence of arches and columns starts from the historic city and climbs up to the top of the Colle della Guardia, reaching the Basilica of San Luca, the dominant feature of the urban landscape of Bologna. The Basilica of San Luca is a constant presence in the image of Bologna, visible from any part of the city. Bolognese people say that when you see San Luca, you feel at home.

The historic urban landscape of Bologna is characterised by the predominance of warm colours, which capture the sunlight during the day. Many buildings are finished in stone or brickwork, while plastered facades are painted in warm shades ranging from red to yellow; decorative elements are traditionally made of sandstone and terracotta tiles are used for roofs. Within such a homogeneous historic urban landscape, some important monuments emerge, particularly the Two Towers and Piazza Maggiore, the main square.

How is this translated into the nightscape of Bologna?

In general, I think the Bologna nightscape is quite a special case because of the porticos. As I said before, when you are walking under the porticos it is very difficult to see the facades of the other buildings; therefore, how facades are illuminated at night is not so important.

In the nightscape, the predominance of warm tones of the urban landscape becomes less evident. The monuments and buildings without porticos, such as the large number of churches scattered throughout the historic centre, really stand out.



The Soprintendenza Archeologia, Belle Arti e Paesaggio, which is the Heritage Authority, has the task of monitoring the lighting of monuments and historic buildings, which must comply with the protection requirements outlined for each of them. The general recommendation is to avoid scenographic lighting and to always favour a natural light effect.

Tell us more about the challenges of lighting heritage buildings in Bologna...

The Soprintendenza has the task of protecting monuments, therefore they have to verify whether the way they are permanently illuminated at night is adequate and whether it contributes to the enhancement of the monument itself. Years ago, for example, a new lighting system was proposed for the Two Towers that would emphasise some architectural and decorative elements and differentiate the nocturnal image from the diurnal one. There was a lot of debate in the city, but a more diffuse and shaded lighting was finally chosen, similar to the light of a full moon.

We favour a natural light effect when illuminating historic buildings.

Are such challenges linked to the illumination of heritage buildings common in other Italian cities?

Opinions about the illumination of historic monuments vary, and depend on many factors, among which the personal opinion of those who make the decisions on whether the proposal is respectful of the monument protection requirements. In recent years, attempts have been made to reconcile protection needs with other instances, such as the temporary use of coloured lights, usually related to particular anniversaries or events.

Scenographic effects to illuminate monuments in a special way, plays of light and projections are very popular and are increasingly in demand. Even the Soprintendenza has been trying to follow this trend, while always respecting the protection of monuments: during the last Christmas season the lighting of the Two Towers changed colours and dance scenes from some films were projected on the facades of several historical buildings (for example, the dance sequence from *Il Gattopardo* by Luchino Visconti with Claudia Cardinale and Alain Delon).

In Piazza Maggiore as well, the Palazzo del Podestà is equipped with a lighting system that enables the use of different colours in connection with specific events.



You mentioned that the porticos really influence how people experience and see the city. How do they impact the nightscape?

Walking under the porticos at night can be very pleasant if they are illuminated properly. The sequence of arches and columns is in itself a scenographic setting, really suitable for very suggestive lighting effects, such as the lighting of the portico of San Luca along the outline of the hill.

Have the unique colour tones of Bologna influenced the reflection on the city nightscape?

I think it might influence citizens' preference for warm lights and warmer lighting colour temperature. Currently, we are in the process of changing our public lighting technology: we are going to switch to LED for streetlights all over the city. And this is a very cold light, very different from the previous lighting. We need to take into account that due to the presence of warm coloured buildings all over Bologna, citizens might not appreciate cold light and would prefer a warmer light instead.

What is the link between the city nightscape and the identity or heritage of Bologna?

This connection, once again, is evident in the monuments that act as landmarks. The lighting of the Basilica of San Luca and its portico make it visible from a great distance, even at night. It is a kind of beacon for every citizen of Bologna. The Two Towers, the Basilica of San Petronio and the other monuments emerge in the nocturnal historic urban landscape, thanks to lighting that highlights them without changing their features. In short, the night lighting creates an urban heritage landscape which is very similar to the diurnal one.

Could you tell us more about how the nightscape of Bologna has evolved?

This is quite difficult to answer, because there has been no overall lighting strategy in the city over the last few years. I think the development of the city lights of Bologna is the result of the cumulative effect, over the years, of single answers to single issues without a planned control of the final result. Every time there is a new problem, there is a new answer, without thinking about the whole system. So there is no overall planning or strategy as such.

Could you explain briefly how the public lighting department functions?

The lighting department of the city consists of a couple of people. We have externalised almost all the public lighting work: all the installation and maintenance is externalised to one company called ENELSOLE. They have a nine-year contract.

The lighting department includes a chief who is in charge and who makes all of the decisions. The rest of the staff is in charge of checking the contract and ENELSOLE activity: colour temperature, positioning, programming maintenance, etc.

The arches and columns of our porticos create a scenographic setting suitable for special lighting effects.

The urban heritage landscape at night is very similar to the day.

The porticos are public and private spaces at the same time, making them a unique challenge for urban lighting.

Do you have any insights on how locals perceive the nightscape of Bologna?

In the city of Bologna there are many participative processes. In terms of lighting, citizens often complain about lack of security and light pollution, especially in the city centre. This is also related to the porticos.

We cannot use lamp poles to illuminate the street because of the porticos; instead we use a lamp hanging on a cord stretched across the street. As this cord lamp is sometimes at the level of the first-floor window of the building, there is light pollution inside apartments.

Moreover, lighting reflects on many other different issues, clearly resulting from meetings conducted within the H2020 ROCK project, which focuses on cultural heritage as regeneration driver of historic city centres. The meetings, with stakeholders and actors of the project pilot university area, led to the co-designing of a new lighting plan in order to test some possible solutions for the whole city.

To what extent does the light from private sources influence the nightscape?

I think this is a major problem. This is also related to the porticos in the city centre, since all the shops in the city centre are under the porticos. If you start a strategy to illuminate the porticos, you have to integrate the commercial lighting. We need regulations to better control this private light.

Inside the porticos, there are two kinds of private lights: the commercial signs of the shops, and the light to illuminate the porticos for the safety of people walking under them. Therefore, it is very difficult to have a coordinated scenographic image, or even just good lighting inside the porticos because the porticos are a private space.

It's actually quite a strange and unique situation: the porticos are private, but their use is public. So this mixture of public and private makes the situation quite unique for urban lighting. The lantern is owned by the private owner, but the energy being used is public. We control the energy and the lamp inside the lantern, but the shop owners own the lantern.

Are there currently any kind of regulations existing related to this?

There is a regulation, but it is only about the commercial shop signs – where they can be positioned and what they can look like. For example, the size of the sign is regulated, as is where it can be positioned, near the window or at the door of the store. It also regulates the content of the sign. For example, you can have the name of the store on the sign, but not commercial brand names or logos. There cannot be a sign of Coca Cola or Sprite for instance.

There is also a regional law about light intensity levels but it is very general and not frequently applied.

It would be nice to have stronger, more specific regulations. But even if we did have such regulation, it would be very difficult to control. We would also need better methods of verifying and regulating.

This issue is especially important since we have just applied for the porticos to be included in the UNESCO World Heritage List. I think it would be essential in the future to have a strategy for lighting the porticos and also controlling light from private sources. ■



CITY OF LONDON

UNITED KINGDOM

CONVERSATION WITH

Clarisse Tavin, Group Manager / Major Programmes and Projects,
City of London Corporation

and **Ian Hughes**, Assistant Director, Highway Team,
City of London Corporation

CITY OF LONDON

Population: 8 000

Also known as the Square Mile, the City of London is the financial district and historic Centre of London. With an 800-year-old history, it has a wealth of monuments and museums that include the Tower of London and St Paul's Cathedral. While the residential population is low, over 500 000 people commute into the City every day for work. The City of London lighting team manages and maintains the public lighting through a Collaborative Partnership Contract with a Contracting Partner.

Number of lighting points: 10 800



Clarisse Tavin

Group Manager / Major Programmes and Projects, City of London Corporation



Ian Hughes

Assistant Director, Highway Team, City of London Corporation

The nightscape is both a mental and physical picture.

CITY OF LONDON

UNITED KINGDOM

What is a “city nightscape”?

C. Tavin: I see the city nightscape as the image of the city at night. It’s both a mental and physical picture. Not just what people see, but also what they feel and remember about a city after they have left.

It reflects the vibrancy and the activities that take place after dark. For example, in the countryside, the night is pretty quiet and the visible activities happen mainly indoors. In a city, outdoor spaces are more active at night and I believe it is important to have a feeling of the activities and the life that occurs there.

It’s also about making sure that key landmarks and the character which make each city unique continue after dark. During daytime, everything is lit up at the same level but architects and urbanists play with shadows to create an atmosphere and a feeling of space. At night, light can really be used as the tool to curate the cityscape and highlight key buildings, outdoor spaces and architectural details to create the feeling of the city, reveal its history and vibrancy.

Why is it important for cities to reflect on their nightscape?

C. Tavin: The City of London, traditionally, used to be busy from 8am to 5pm, Monday to Friday and very quiet at night and during the weekend. This is changing and the nighttime economy is becoming increasingly important. The nightscape is therefore becoming essential to continue life after dark. The nightscape and the approach developed in our City Lighting Strategy reflect all the activities that we want to develop. It is also a way to attract different people at a different time of the day.

From the City of London perspective, this is particularly important as it is strongly related to lots of initiatives and long term transformations such as Culture Mile, a new cultural quarter we are developing. There we are looking at how you can develop artistic and cultural activities during day and night, and attract people after dark. We also have many 24/7 businesses and a responsibility to make sure we provide the right environment for people at night.

For us, it is vital that the City of London is recognisable at night. The nightscape adds to the mental memory of the City, so it is important to create a positive picture that people will keep in their mind.

What would you say would be the qualities of a good nightscape?

C. Tavin: It’s about reflecting the character of the place and highlighting its landmarks and what makes the City of London unique; but it is also about recognising the need



for dark areas. It's not about having the same uniform lighting everywhere, but having light that is adapted to the different typologies of space. It's also about having a lighting approach that reflects people's needs and activities.

For example, we have a dimming system in place which allows us to have relatively bright light when it starts getting dark (which can be quite early in winter months!), which can be dimmed down later in the night during off-peak hours when there are fewer people on the streets and open spaces. This is also important in terms of sustainability, to ensure that we don't use energy on empty places that don't need lighting.

I. Hughes: There's one other thing: if you look at the very long term, the city changes, grows and morphs over time. So, if you look at the 20, 30 or 50-year life cycle which is the life span of buildings, the City of London is always growing, with new tall buildings coming alongside the heritage buildings. So over time, you definitely want the city nightscape to be fluid, to adapt

Culture Mile

Culture Mile is the City of London's cultural district led by the City of London Corporation, with the Barbican, Guildhall School of Music & Drama, London Symphony Orchestra and the Museum of London. Together, the five partners are creating a vibrant, creative area in the north-west corner of the Square Mile.

Lighting is seen as a fundamental element of this transformation, supporting the area's energetic and artistic nightscape. Culture Mile provides an experimental field for the current City Lighting Strategy, where creative and artistic lighting applications can be tested. A recent research developed by Culture Mile in collaboration with the Configuring Light research group based at London School of Economics, will address and help support implementation and development of the City Lighting Strategy in Culture Mile.

with the changing public realm. You want to have an anchoring of fixed points around certain heritage landmarks like St Paul's Cathedral, or the bridges, but then you want certain other things in the nightscape to adapt as the City changes and grows over time.

Could you tell us about the daytime landscape of the City of London?

C. Tavin: The key characteristic of the City of London is really the combination of ancient and modern – the high hyper-contemporary towers that sit close to old Victorian-era churches or a historic wall from Roman times. Also, the City street pattern has not changed much since medieval times: there are still main artery streets, and then in parallel, a tapestry of small pedestrian mews and alleyways. This street pattern allows for the half million people commuting in the City every day to navigate its built environment. So, during daytime there is always a big contrast between major busy connectors and roads with much more quiet pedestrian places, and small pocket parks and churchyards hidden in the middle.

How is this reflected in the nightscape of the City of London and its evolution over time?

I. Hughes: The modern lighting of the City started 30 years ago with the view that it needed to be brightly lit to prevent antisocial behaviours, but also to make a statement about what it was thought a successful city at that time should look like. So, the City of London was very strongly lit in a homogeneous manner at the time.

With our new lighting strategy, we are currently developing a flexible approach which allows us to adapt lighting levels to the different streets and to different needs. We therefore have higher levels of lighting with cooler colour temperature in the main roads, and less intense, warmer lighting in pedestrian-dominated spaces. We also want to reveal the different characters of the City at night too, and in our City Lighting Strategy, we have identified different character areas and are proposing a bespoke approach to lighting that reinforces these.

How did you adapt the light to the different character areas in the City?

C. Tavin: At the beginning of the development of our strategy, we organised several night walks in the different parts of the City to have a real experience of the spaces after dark. Through this approach, coupled with our knowledge of the City (as it is not a big area and people in the team know it well!) we made a mental list of the key buildings, the key

City of London lighting strategy

The City of London adopted its lighting strategy, the first of its kind for a London borough, in 2018. The lighting strategy document, entitled "Light + Darkness in the City / A Lighting Vision for the City of London" was drafted by international lighting design practice Speirs+Major in collaboration with the Street Lighting Team, the City Public Realm Team, the Transportation Team and the Planning Team.

It aims to deliver a holistic, creative and smart approach to balance light and darkness, which can better define urban spaces in the Square Mile. Its objective is to provide the City with the lighting it needs and improve the quality of life for its workers and residents, by avoiding unnecessary light pollution, over-lighting, excessive glare and inconsistencies in lighting design. It focuses on the following aspects:

- Adapting, dimming and profiling light intensity for actual needs and visual appeal
- Designing separate lighting strategies and using selected colour temperatures to reflect each area's unique features
- Providing "human scale lighting"
- Balancing light and darkness

In practice, the project involves a total of 12 000 lights to replace the 30-year old lighting system.

strategic areas, historical places and more recent architecture that we wanted to highlight or to preserve. We also noted the daytime look and feel of certain streets that we wanted to maintain at night.

I. Hughes: The City of London is such a small area that you can take this approach. There are different clusters of activity within the Square Mile, and you can quite easily identify a residential area from a transport hub, from a business centre, from a heritage area to a corridor for traffic. And we have to agree the kind of lighting approach that we want to apply there. We are trying to find a way to bring some consistency, but still create a different flavour in different places. And by varying the three dimensions of lighting – the timing, the level, and the temperature – we are able to make different combinations that apply to these different locations.

For example, the lighting near Fleet Street, the lawyer’s area which is full of small alleyways, will be softer and warmer than for example outside Liverpool Street Station, which has floods of people moving in and out every day.

The City of London by day has a very specific image associated to it. Do you seek to create a different image of the City at night through your work on the nightscape?

C. Tavin: When we developed our Lighting Strategy we were very clear that it wasn’t about replicating the look and feel of the City during the day at night, but finding its own “after dark identity”. These are very different moments with different activities, so we wanted to create a specific feel and specific atmosphere at night.

I. Hughes: My view is that the City is still trying to grasp the idea that it can be vibrant at night. Most of the time, when people think about what happens in the evening, it’s quite often a negative feeling linked to noise, disruption to residents and antisocial behaviour in the streets. Now, the lighting is allowing us to remind to people that the City can be a positive experience in the evening. So, we’re trying to shift that perspective. I think that a broader approach in terms of reconsidering the public realm as a 24/7 feature is the direction we want to head.

C. Tavin: This is particularly relevant for Culture Mile for example. Lighting is key to allow a change in the perception that people have of the City as a financial centre only, and we want to make this part of the City much more vibrant, much more creative and innovative. And we are working with artists and designers to do something different there both during the day and night.

If we look at the nightscape as a picture postcard view, do you favour certain viewpoints when you are developing the nightscape?

C. Tavin: Through the planning system we have “protected views” all over London. These are virtual corridors where height limits are imposed on development and very strict rules for construction apply. This creates very specific view points in the nightscape. For example,

We need to take a broader approach and reconsider the public realm 24/7.

Lighting is key to changing the perception of the City as only a financial centre.

the view of St Paul's Cathedral is protected from various prominent locations around London.

The view of St Paul's Cathedral from the Millennium Bridge is quite famous, as is the view from Fleet Street which historically has been the processional street through the City. The views toward the cluster of towers where the Gherkin is situated are also well known.

I. Hughes: One of the things we struggle with because of our tall buildings and ancient road pattern is that we have very few vistas. The City, when you experience it as a pedestrian, can often feel quite enclosed and quite tight. You can't see very far, often you can only see to the end of the street you're standing on. So that's why the protected views of St Paul's Cathedral are so important, because it's one of the few things that stands out.

I think that's why we've taken to the idea of Illuminated River so well as it is where you can see the City vistas and beyond the Square Mile as you walk along the riverside. So connecting with the Illuminated River project around lighting the Thames and its bridges has been important for us.

Also, it taps into the appetite for using light as art, which is relatively new from our point of view. Before urban lighting was just functional and the task of a lighting engineer rather than an artist. And this project is bringing that shift, allowing a different dynamic and a different conversation to take place.

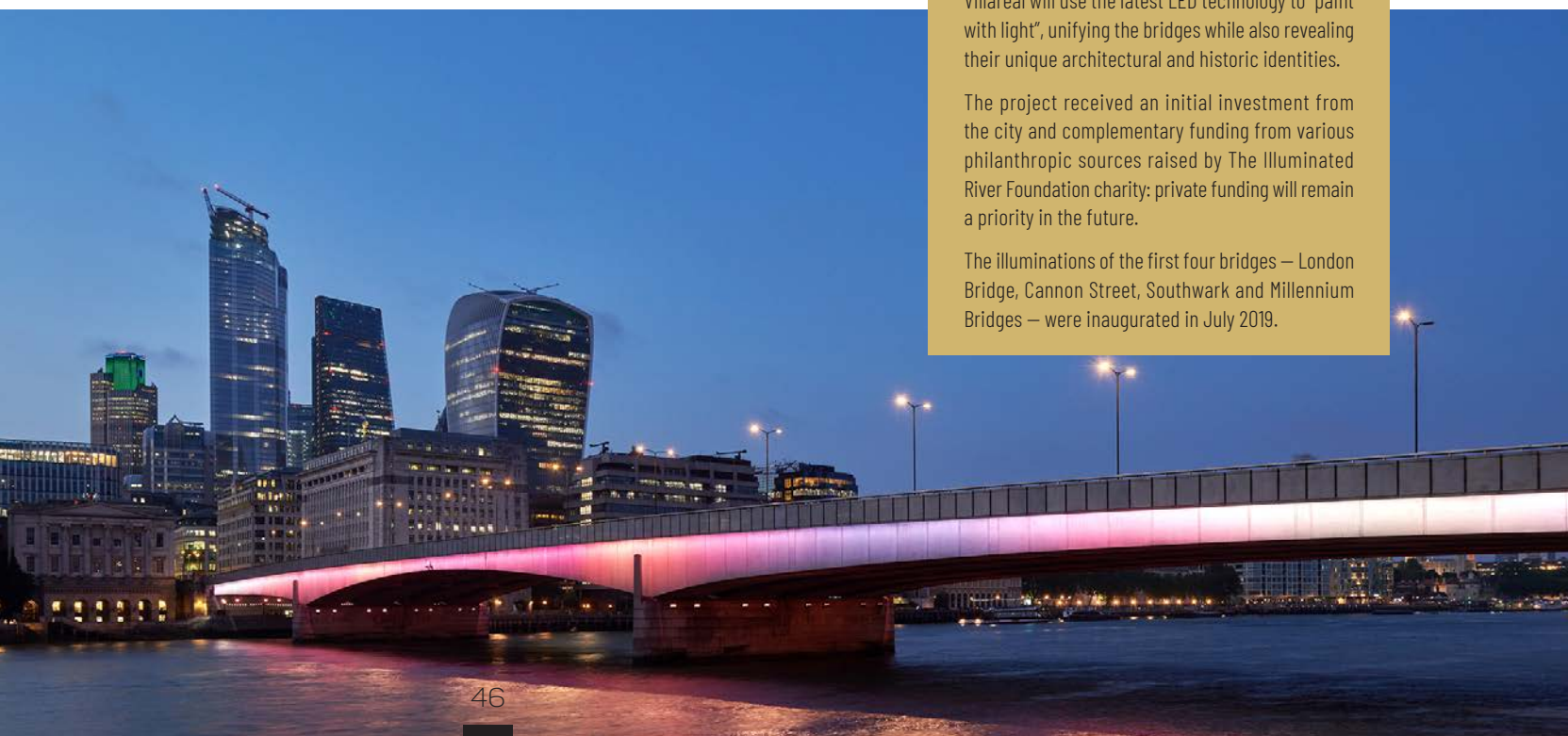
Illuminated River

The Illuminated River project aims to celebrate the central, longstanding role that the Thames has played in the history of London's development. Illuminated River is an unprecedented scheme to light up to 15 central London bridges, led by London architects Lifschutz Davidson Sandilands and American light artist Leo Villareal.

Villareal will use the latest LED technology to "paint with light", unifying the bridges while also revealing their unique architectural and historic identities.

The project received an initial investment from the city and complementary funding from various philanthropic sources raised by The Illuminated River Foundation charity: private funding will remain a priority in the future.

The illuminations of the first four bridges – London Bridge, Cannon Street, Southwark and Millennium Bridges – were inaugurated in July 2019.



I remember I came away from my trip to Lyon three or four years ago, where we had the pleasure of meeting the Director of Urban Lighting, and he was using a language that we never thought of using about lighting before. It was all about beauty and art and quality and dynamism. We just didn't think about lighting like that at the time, and I'm pleased to say that we've come a long way.

We've been working with the Illuminated River Foundation for a few years now. The City of London Corporation owns five bridges, and so they needed our permission, and we were involved in the technical assessments for the competition as well. From a technical level it was a real challenge, but from an artistic level it is another opportunity to talk about lighting the Square Mile and the centre of London in a different way.

Workers, residents and visitors to the City can suddenly realise the bridges are beautiful, whereas before they were just functional things. I think it will elevate how we see lighting for an urban centre in the UK. I think other cities, like Lyon, are certainly further down the line in that. But it's about changing the way in which we look at lighting. It's just another step in the journey of changing the language and the discussion about lighting.

How did this change in perspective regarding lighting and its priorities come about?

I. Hughes: We actually started with a technical perspective, saying that our lighting is 30 years old, it's fading and it's going to be decommissioned. So we needed to spend money to replace it, and this is the right time to buy into the change in lighting technology. We seized the opportunity to make it more than just switching the lighting on and off.

It started off as a technical change, but very quickly morphed into this question about, well, if you have the ability to do something, and you can do whatever you want, you need to establish what you want to do; you have to deal with it in a strategic way.

By identifying the gap in our policies, and aligning that with the technical change, and the way in which the City was changing with the nighttime economy opening the door for things like Culture Mile, we could say: look at what the city could look like at night. We can do things with way-finding, we can do things with events that relate to lighting. We are moving into a domain where there is a world of opportunity, literally. Whereas before it was just thinking about road safety, crime and disorder.

Is the nightscape recognised unofficially or officially as part of the City of London's heritage?

C. Tavin: Yes, you can say it is recognised. Especially linked to the protected views I mentioned before.

I. Hughes: And I think that there are some places that have a strong resonance for people, like St Paul's Cathedral. And even though people might not realise it, the lighting of the Cathedral, and its image at night is sort of buried in their consciousness. But it's implicit. It's embedded in their psyche, but it's not something they realise. If you ask them what's

It's about changing the language and the discussion about lighting.

We are moving into a domain where there is a world of opportunity.

We are challenging property owners to light their building in a way that fits in with their surroundings.

important as they are standing out there in the evening, they'll talk about anything other than the lighting that they're enjoying.

We took some of our Council Members out on some of these night walks, expecting a fairly rough time because we were trying to explain to them what we were wanting to do. And I remember one of them using a lovely phrase, he wanted the City to show off its charm through light. And that's a feeling. It's something you can't touch. I'm pleased to say he is now delighted with what we've done. We are revealing the charm of the Square Mile.

Could you talk about the next big challenges that you see for your city nightscape?

I. Hughes: The main constraints and challenges for me, on the technical side, is remaining ahead of the game on technology.

From a broader point of view, I would say there is a challenge on making the most of it. Not necessarily making the City brighter, but rather making the whole project sustainable and aligning with our new Climate Action Strategy which is looking to reduce the City's carbon emissions and to ensure that the City is resilient to future weather conditions. We are creating this opportunity, but it's no use if we don't continue to push to be at the forefront of city lighting.

Another big challenge we face is around the planning side. Our planners recognise that it is hard to control some of the buildings in the City and their lighting. There's still that sense at the moment that the City is fundamentally over-lit at night. In the Eastern City Cluster of tall office blocks, many of which remain illuminated from the inside, we still have work to do on the sustainability messaging there.

C. Tavin: Another challenge that may happen at some point is that private developers may want to do more architectural lighting. At the moment, this is not very common in the City of London, but it is happening in other cities. So how do we respond to that? How can we make sure we create a comprehensive nightscape? This is a challenge we need to prepare ourselves for. And we have started working on this through the drafting of a Planning Guidance note as well as a new Climate Action Strategy, and a public consultation will be organised as well.

Tell us more about the challenges of creating a coherent nightscape despite the many private stakeholders in the City of London?

I. Hughes: I think it's true to say that it's a challenge. I've seen proposals for lighting historic buildings that ignore the fact that the building sits in a landscape. And the integration between building lighting and street lighting is often an issue. Our new City Lighting Strategy aims to help avoid such situations. We are challenging them to light their buildings in a way that's sensitive, proportionate, and fits in with the streets and surroundings, rather than conflicts or challenges them.



We also have some positive examples, like the new Bloomberg Headquarter designed by Foster+Partners near Bank Junction. They engaged with us right from the planning process three years before the building was built. They wanted to make the building look and feel different and they were very keen to not have streetlight columns dotted around the building.

They wanted to have the building lighting set inside a rippling metal structure going around the building. And the lighting is such that the street is being lit — as well as the architecture of the building — from within the building. It's really quite a beautiful way of doing it.

But we had to trust them to do it. So we came to an agreement where they paid for us to upgrade our lighting, around and across the building, and now we have actually put new fittings and switched them off, because the lighting from the building is good enough. But at least this way, if they change their building lighting, we will have something to fall back upon.

We have established a Lighting Board, bringing together people at municipal officer levels.

Do you have any tools or leverage that you can use when you are negotiating lighting with private building owners?

I. Hughes: We're in a very lucky position, almost unique in the UK, because the City has always been a busy pedestrian space, and we didn't want lamp columns cluttering up the narrow pavements. In the late 1800s, we had our own act of parliament that gave us the right to force buildings to accept our lighting luminaires on their building facades. So we can require the building owner to accept the lighting fitting and cabling.

That power still exists today, and it gives us a very good strong hand. Whenever a new building comes up, we can require them at the planning stage to include public lighting fixtures on their building. They know that they have to work with us because if they don't, we will still install public lighting points on their building.

How does it work when private property owners want to do some architectural lighting?

C. Tavin: It is regulated through the planning process. A condition of granting the planning application will be that they provide a lighting strategy. That goes through the planning process and it gets consulted on with several teams including highway engineers, public realm, the transport team, etc. Following a key recommendation from our City Lighting Strategy we also have a Street Lighting Board which reviews all lighting projects.

If it does not fit in aesthetically with the rest of the nightscape vision could you step in?

I. Hughes: Yes. I think now that we've got the City Lighting Strategy, we can use that. Between that and the planning guidance, we've got enough ammunition to be able to constrain the things that we don't want and promote the things that we do.

Before this, I'm not even sure whether we had any planning applications coming through that talked about how the building would look at night. I can't remember that debate being had at all more than three or four years ago.

Now there is a different language, a different dynamic. When we have public schemes where we have planning applications for big buildings involving major changes of street infrastructure, we ask what it will look like at night; how will it fit in with our strategy? We've now got the policy and the experience, we have the technology, it can be done.

Could you also tell us how you manage your city nightscape and the different tools you have in place?

I. Hughes: We have now got the City Lighting Strategy for the public realm. And we are developing guidance for planning development. And those are the two key things.

In addition, we have established a Lighting Board, bringing together people at municipal officer levels. This is the forum where we can discuss issues, look at key changes that we want to do and implement those strategies. It's a combination of the lighting engineers who physically manage the system and the fixtures, and the Public Realm Team, Clarisse's

department, who consider the look and feel of the lighting. It also includes the city transportation team who are looking at health and safety, and the City of London Police who are primarily interested in issues around lighting, antisocial behaviour, counter terrorism, those sorts of things. We also have our environmental health team which deal with resident complaints on light spillage and think about the health impacts of lighting. And we also have representatives from our parks and gardens team, and also our energy management team which at the end of the day buys our energy, and with whom we work with to find the cheapest way of maintaining our projects. And we also talk about smart city projects. We've got the opportunity for sitting sensors on top of the mesh network that runs the lighting and there are opportunities in the technology data gathering side. The idea is that we collectively look at opportunities, challenges, and the direction we're going. At least we've got a regular chance to touch base and agree what we want to do.

You mentioned earlier that the nightscape creates a memory of the City of London in people's minds. Do you know what inhabitants think about the City's lighting and nightscape?

I. Hughes: We only have a small pocket of residents in the City, but they are usually quite active. We organised a wide public consultation on the draft lighting strategy asking people what we should be aiming for. We found that saving energy was the top response. And safety, unsurprisingly, came second. But the fact that culture came third was quite a surprise. We also had the interesting situation where you had almost as many people saying that the City was overloaded with light, as people who thought it was underlit.

C. Tavin: I think the consultation also recognised that heritage lighting should be preserved, such as old gas lights still in operation, and maybe enhanced as well. Interestingly, the whole exercise reinforced what we mentioned before, that if people are not specifically aware of lighting, even if you ask them a specific question, they have to reflect because it's more unconscious.

I. Hughes: We also do night walks every six months or so. We try to do walks for different groups of people: police officers, residents, urban designers or architects, the press, shop keepers, private property owners in the area, etc. People are interested in what we are doing and we are actively trying to find ways to promote it. It's the first time a borough has a lighting strategy for its entire area. This is why we were approached by quite a lot of people in London that want to know more about it. We're very happy to explain what we've been doing, and hopefully we can inspire them.

C. Tavin: You can see how lighting is becoming a high priority across London and for the Greater London Authority. Discussions are happening at the moment to share knowledge and expertise across all London boroughs. However, this is just the beginning of the process, and just another chapter of London's nightscape history. ■

We collectively look at opportunities, challenges, and the direction we're going.

You can see how lighting is becoming a high priority across London.





GENEVA

SWITZERLAND

CONVERSATION WITH

Florence Colace, Architect - Lighting Designer, City of Geneva

GENEVA

Population: 201 000

The City of Geneva is one of the most dynamic urban areas in Europe with an annual growth rate greater than 1%. Owing to its renowned international organisations, Geneva attracts economic players from all over the world and has a cosmopolitan environment. The municipality is in charge of the public lighting. Maintenance of the public lighting network is outsourced through a specific contract.

Number of lighting points: 22 800



Florence Colace

Architect – Lighting Designer,
City of Geneva

GENEVA

SWITZERLAND

How would you define the “nightscape” of a city?

It means the atmosphere, or atmospheres, of a city at night: another identity, other aspects or landmarks that are highlighted and more visible than during the day. The nightscape, or nighttime image, allows us to choose what we bring to light or on the contrary what we “silence”.

A nightscape can convey an emotion and a new experience; it can give the “beat” of the city. If it’s brightly lit, colourful and dynamic, we’ll feel a faster beat. It means we’re in a city that doesn’t sleep and has lots of activities, breaking with the circadian rhythm that alternates day and night. We try to blur the difference between the hours when we are awake and those when we sleep, to gain ground, to explore and exploit the night, which must become profitable and commercial.

If on the contrary the lighting of the nighttime landscape is softer and more nuanced, the rhythm will slow down. There will be less activity and the night will be a time for rest.

When travelling to towns and cities we don’t know, we notice even more the differences between night and day. Indeed, our brain doesn’t “rebuild” an image of that town at night, because it doesn’t know it.

I recently experienced this during a visit to Lugano. I was strolling by the lake: it was relaxing and calm. However, there are some unfortunate buildings that do not fit into the environment. But if you walk around the lake at nighttime, you cannot see these buildings; it’s as if they have been erased. I noticed in particular a large, dark shape on the other side of the lake. No light, no building, road or signpost to give you an indication. I was quite thrilled to imagine this territory yet “uncolonised”. The Lake Geneva area is much more built and accessible day and night, so it’s impossible to have such an image there.

I like Berlin’s nighttime landscape. I don’t know the whole city, but I remember a very soft atmosphere, a background street lighting that gives space to the night. I remember that some streets in residential neighbourhoods were still using gas lighting. Even though it’s not environmentally-friendly, the City of Berlin struggled to replace it because residents loved it. Why? Probably in part because of nostalgia, but mostly because residents like the subdued light provided by gas lamps. Indeed, even though the lighting was quite dim, it was enough for the eye to adapt. The system worked because there was no, or very little, commercial lighting, hence no powerful sources that would have brought sharp, undesirable contrasts.

How would you describe Geneva’s daytime landscape?

Geneva is situated by Lake Geneva, and the Rhône River and Arve River run through it. Water is thus an essential part of the city and indeed, the famous Jet d’Eau fountain in Lake



Geneva, in the heart of the city, is emblematic. Furthermore, there are several bridges which were built at different times with different architectural styles.

Saint Peter's Cathedral, which is located on a hill in the historic district, is an important monument that can be seen from many points. There are no higher buildings around, which gives it even more prominence.

There are also old estates that have been converted into gorgeous public parks on both the left and right banks of the lake. They are all open all night, except for the Lagrange Park.

Mont Jura and Mont Salève, which surround the city, are both 1 500 m high. Geneva residents often go out to the lake or the mountain at the weekend. Mont Salève is more easily accessible by road or cable car and offers an interesting viewpoint on Greater Geneva, both during the day and at night.

The nightscape gives
the “beat” of the city.

The Lighting Master Plan is our reference and provides us with guidelines.

Smart lighting is a tool and not an end in itself.

Talk us through Geneva's nighttime landscape...

The notion of landscape is key because it reflects a city's identity and image. It is therefore essential to analyse the "morphology" of a city prior to drawing up a lighting master plan, and to understand how it was built over time and how it has evolved. We at the Geneva City Council believe this analysis should also encompass the future networks and districts.

Generally speaking, we want to keep a peaceful nighttime landscape and some "luminous quietness" with calm street lighting. Geneva is called "Calvin's City" in reference to John Calvin, the 16th century theologian who was one of the founders of Protestantism and who lived in exile in what was at the time the Republic of Geneva.

The city has thus inherited a culture of measure and sobriety. Similarly, the municipality uses colour sparingly in its public and street lighting. There are already a lot of coloured light sources in private properties so there is no need to overdo it. All this is laid out in our Lighting Master Plan, which was adopted in 2009 and includes five objectives:

1. draw up a global light, lighting planning strategy,
2. promote Geneva's architecture, living environment and image,
3. promote both usage and aesthetics,
4. improve lighting and reduce consumption,
5. coordination and collaboration.

These objectives are still relevant today; they represent the values that the City of Geneva wants to promote through its lighting strategy.

Concerning the creation of the nightscape, the Lighting Master Plan covers three aspects: iconic, structural elements; neighbourhoods and living spaces, and networks. Each aspect encompasses various groups that are each dealt with in a specific manner depending on their image and nighttime use.

For example, the first group includes the Geneva harbour and its different layers of light (the garland of light around the lake, the hotel facades, and the rooftop luminous signs). The second group includes a chapter on "Wild Rhône and Green Arve", which recommends restricting lighting near the banks to protect the local fauna and flora. Lastly, the third group focuses on mobility networks, with the lighting of the main thoroughfares and "soft mobility" networks.

The Lighting Master Plan is part of the Communal Master Plan, which means it had to be approved by the Geneva Canton, including the monitoring of objectives. In the past ten years, the Lighting Master Plan's main objectives were achieved and in some cases exceeded. The Plan remains our reference and provides us with guidelines.

What are the main challenges regarding Geneva's nighttime landscape in the short, medium and long term?

Everything is accelerating, so it's important to make the right strategic choices and avoid



being too influenced by all the new technology. Even though smart lighting is a very interesting tool for managing light and reducing energy consumption, it is just that: a tool and not an end in itself. When reflecting on the nighttime landscape, the priority must always be the users and their needs.

Technological developments also bring new questions, such as how to reconcile dynamic and static lighting, and festive and daily lighting. The lighting must be comfortable wherever you are without being overbearing, while some specific locations may have a more festive lighting.

In Geneva, the most famous site is the harbour, but there is also Place Neuve where a new, subtle dynamic lighting has recently been installed. This famous square where three

► Illuminating the Passerelle de la Paix in the Green Belt

The Green Belt project aims to create a continuous path of 22 km designed for green mobility crossing the Geneva urban area. It will be a major pathway for all non-motorized transport (cycles, roller blades, pedestrians, etc.).

One of the sections of the Green Belt that has been implemented with lighting is the Passerelle de la Paix, a pedestrian and cycling bridge in the newly renovated Sécheron district of Geneva. The 160 m bridge passes over the railroad and creates an essential link connecting the lake to an institutional area.

The bridge is composed of perforated sheets on the outside and translucent glass on the inside. At night, the integrated fluorescent tube lighting behind the glass accompanies passers-by and creates soft yet effective lighting. "Its bold architecture, its dimensions, and its essential function facilitating green mobility, affirm the City of Geneva's commitment to sustainable urban development.

How can we coordinate all the lighting that impacts the public domain?

major institutions are located (the Conservatory of Music, the Grand Theatre and the Rath Museum) can now benefit from its own, tailored lighting. It is situated near the Bastions Park and represents the heart of Geneva's art, student, tourist and family life.

Collective thinking has changed and nowadays, light pollution and global warming have become key issues that must be considered as priorities while reflecting on the public lighting in the new neighbourhoods that are changing or being built. Indeed, we will soon work on a new version of the Lighting Master Plan in order to take into account these new developments.

▶ The night is beautiful

"The night is beautiful" (La nuit est belle) 2019 initiative invited the municipalities of Greater Geneva to turn off their public lighting for one night.

152 municipalities of the Greater Geneva region participated by not switching on their public lighting and 64 activities were offered to residents of the cross-border region. This exceptional event enabled the initiation of the continuing battle against light pollution.

Beyond the event itself, the work of the organising partners continues on a daily basis to ensure that all nights are beautiful in Greater Geneva.

To what extent does private lighting and light clutter disrupt the nighttime landscape?

It varies from one site to the other but in any case, this is obviously a factor we need to take into account. There is a mix of public and private lighting, which can either complement or clash with each other.



Controlling public lighting is relatively easy since it is managed by local authorities, but it is more difficult to do something about private lighting. Indeed, we are in the process of examining how to coordinate all the lighting that impacts the public domain.

For example, it is very difficult in the City of Geneva to intervene on a light display located inside a commercial mall, even if it is within a protected area. It is a problem, in particular in the historic centre where all the classic street lights have recently been renovated to provide comfortable, soft lighting, (which is below the average norm) in line with the historic character of this district. However, the presence of a bright, luminous screen in one of the alleys of this district jeopardises these efforts.

Do you have data on how local residents perceive Geneva's nighttime landscape?

We have very little feedback from citizens. We sometimes receive queries about things that don't work, but we rarely receive positive feedback. However, we observe a growing demand for reduced, rather than stronger, lighting. ■



GHENT

BELGIUM

CONVERSATION WITH

Bart Peeters, Project Leader of the Ghent Light Plan, City of Ghent

GHENT

Population: 260 000

Ghent, known as the “City of knowledge and culture”, is famous for its rich historic heritage, university, museums and cultural events. The municipality aims to offer a pleasant environment for all inhabitants, creating a custom-made city on a human scale. The public lighting is managed by the municipality in collaboration with Fluvius, the regional energy distribution grid operator.

Number of lighting points: 37 800



Bart Peeters

Project Leader of
the Ghent Light Plan,
City of Ghent

**Nightscape, identity
and city branding are
closely linked.**

GHENT

BELGIUM

What is your definition of a “city nightscape”?

A city nightscape is how the visual impression of a city is created at night. A city nightscape is the skyline of the city at night, seen from a distance. That is the large scale. It is also the atmosphere you feel when you cross a public space at night; that is the small scale.

The large scale and the small scale come together by the implementation of an overall lighting strategy, through a lighting master plan.

Why do you think it is important for cities to work on creating a nightscape?

I think the identity of the city is really important, not only for people living in the city, but also for people visiting the city. Nightscape, identity and city branding are closely linked. It is essential that the city reflect on and decide what identity it wants to project with its nightscape.

Ghent, for example, is a historical medieval city. In the 12th century, Ghent was even the second biggest town in Europe after Paris. We have this rich history which you can still see today in many buildings. We have a world-renowned university and lots of cultural events which give the city a vibrant atmosphere. In addition, we have some modern architecture that reflects the dynamism of Ghent today.

However, when you walk around the city during the day, the sun will give the same value and visual expression to all these different buildings. And that is the difference between day and night. At night, there is no sunshine, there is only artificial light. So we are the directors, and a Light Plan can be the guide. We can highlight the details, the icons, the history, the identity of our city. I think that’s why it is important to think about the nightscape, because it says something about the history and the past of the city, but also about its identity today and in the future.

Also, they say that in 2050, 70% of the total world population will be living in cities. So cities will get denser. We need to create a common shared public space and we can do that also at night by thinking about the nightscape and the lighting strategy. It’s just one of the various tools we have to create a good public space.

Tell us more about the different scales of a good city nightscape...

When we consider the nightscape, we have to think not only about the large scale or the small scale, but both.

For instance, in Ghent, we have three medieval towers really close to each other. These are the icons of the city. For example, when you think of Paris, you think about the Eiffel tower;



when you think about Ghent, you think of these three towers. It's part of the collective memory. They tell a story about the history of our city. They are what you see when you see the city from the distance. This is the large scale, the overall city identity.

But once you go inside the city, when you are walking on the streets, the small scale becomes more and more important. So it depends on where you are and what you see. You need to adapt the scale.

That is the reason why, in the Light Plan of Ghent, we first think about how we should present the city as a whole. And then afterwards we go deeper into details, ending with small streets or buildings. They all have to work together, so that the large and small scales fit together.

Tell us more about the Light Plan of Ghent...

The City of Ghent created its first lighting master plan at the end of the 1990s. The Light Plan of Ghent has several layers of lighting. First you have the functional street lighting which

is everywhere you have a road with traffic. On the second level, we have the atmospheric illumination of facades in particular streets, like shopping streets with lots of pedestrians. And the third layer is the specific monumental illumination of historical buildings.

The street lighting works all night. The atmospheric illumination of the facades and the monumental illumination works from dusk till midnight, and then it all shuts down except for the three towers of Ghent (as they are the beacons of the city).

This is the way we work with three levels of light in the city. And then when you go into further detail in the first layer, which is the functional lighting, you also have several more categories

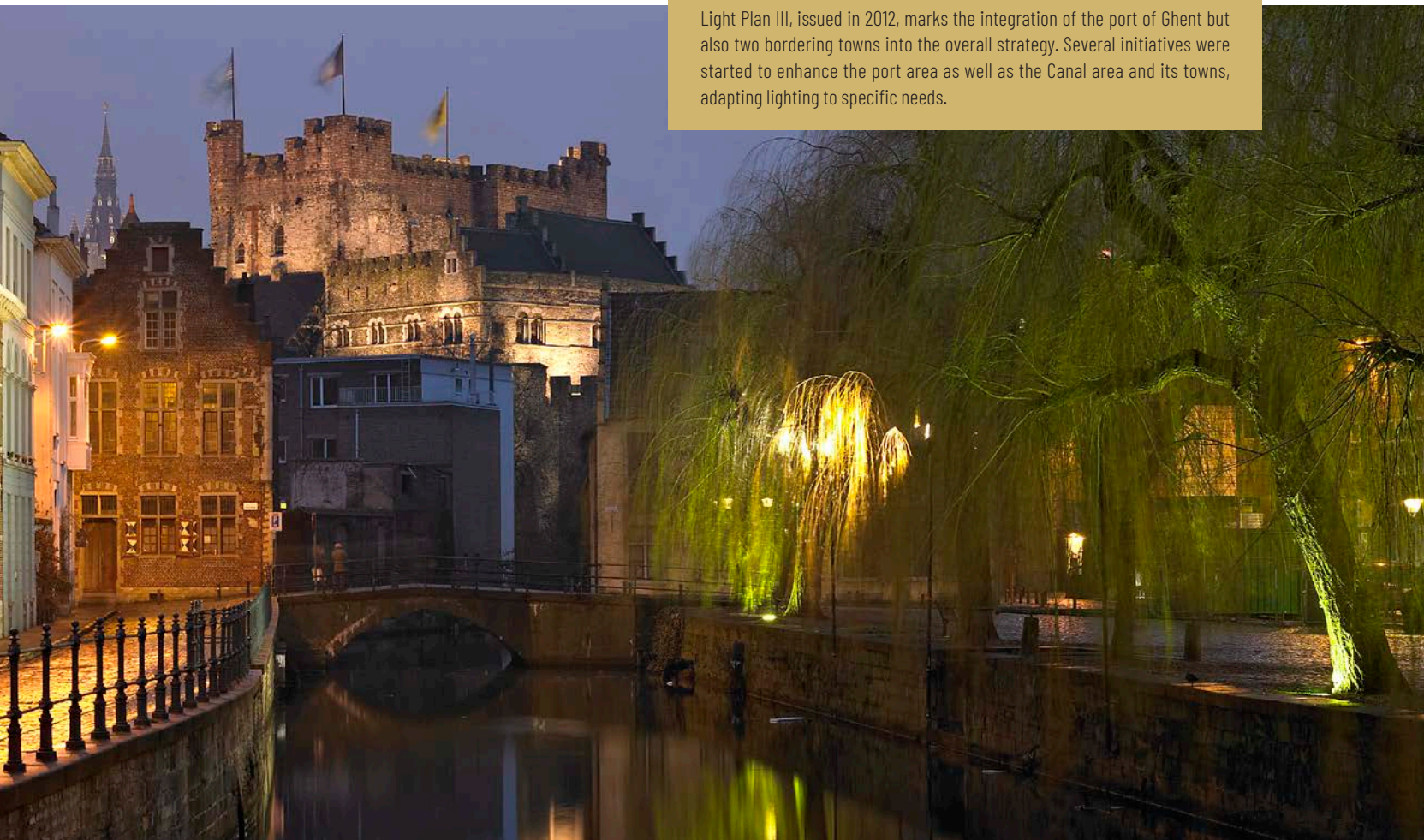
Ghent Light Plans over the years

The City of Ghent's lighting strategy was initiated in the mid-1990s. In 1998, the municipality commissioned the Atelier Roland Jéol, a lighting design practice from Lyon, and the Intermunicipal Company of West Flanders (WVI), a team of urban planners from Bruges, to analyse the existing lighting. With particular attention to colours, light intensity and the types of luminaires, they collected ideas to find a good balance between light and darkness.

A pilot group composed of municipal officers, experts, electricity companies and citizens established a set of visions for the city and followed the production of the city's first lighting master plan. Light Plan I, issued in 1999, was a light plan for the Ghent city centre, aiming to enhance the city's identity, increase street safety and reduce energy consumption and light pollution.

In 2006, a second lighting master plan, Light Plan II, was issued to extend the City's lighting strategy to the rest of the city, respecting the character of each neighbourhood and area. A Rational Use of Energy (RUE) plan was conceptualised and added to the strategy. In 2012, the City reported a decrease of 20 777 457 kWh in energy consumption, resulting in 1857 956€ of savings.

Light Plan III, issued in 2012, marks the integration of the port of Ghent but also two bordering towns into the overall strategy. Several initiatives were started to enhance the port area as well as the Canal area and its towns, adapting lighting to specific needs.



too: you start with the highway where you need lots of lumen output and you go down until you have a small local street. So the light intensity lowers according to the type of street.

Speaking of the third layer you mentioned, could you talk about how the city decides what should stand out in the nightscape?

For the big historical, classified monuments, we have a heritage list. Beyond that, our choices are based on the gathering of impressions when you walk around the city at night. So it's a combination of visual impressions and the information we get from the city departments.

What is really important, I think, is the second layer I mentioned above, the atmospheric illumination. It's the atmospheric illumination which can make the link between the other two layers; between the functional street lighting and the monumental illumination. It brings everything together, it brings unity.

The strength of a balanced lighting plan is that these three categories work together. And in the end you have this total impression of the city at night. I think that could be the definition of a well balanced nightscape.

Are the different neighbourhoods of the city reflected in the nightscape?

The first Light Plan was for the city centre. When people saw the results of the illuminations in the city centre, they asked to become part of this in their areas too.

And so in 2006 we made the second Light Plan focusing on the areas around the city centre to involve all the other communities. We aimed to reflect the identities of these specific communities and illuminate the public spaces accordingly. We looked for buildings and structures that had value for that specific area and its inhabitants.

In the city centre we have big buildings, churches and a cathedral. But in the peripheral areas, you might have a little church in a small square. Even though the scale is different, this is the heart of the area, and this is what we highlight with light. So we don't need to create landmarks; they are already there, just in a smaller scale.

And actually, when you illuminate them, you make a positive link between the small suburban church and the big cathedral in the city centre. The people from this suburb see that their public space is lit up in the same way, and with the same care, as in the city centre, and they feel connected with the city. So not only do you highlight the identity of this area, you also make the community feel part of the city as a whole.

Is your nightscape in any way recognised as part of Ghent's heritage?

If you are talking about UNESCO heritage, no, the Light Plan is not protected in that way. We have some UNESCO sites, but those are the buildings and spaces, not the lighting.

However, the city nightscape is the result and the ambition of the Light Plan of Ghent, and the Light Plan is a politically approved document. The creation of our Light Plan was the

**Atmospheric illumination
brings everything
together.**

**Light can create links
making suburban
communities feel part
of the city as a whole.**

The Light Plan is the recognition of what we want to make possible with light in the city.

result of many city departments working together, along with the external lighting designer, and our citizens too. So it was a very important process for the city. It involved a lot of commitment too, since it is officially voted and approved by our city politicians and board. It is, in a way, a recognition of the lighting and what we want to make possible with light in the city.

If you consider our Light Plan, which is politically approved, in an indirect way, the nightscape is also officially recognised.

Briefly tell us about some of the tools that have been established to develop and maintain your nightscape...

The public lighting system itself is implemented and controlled by Fluvius, commissioned by the City of Ghent.

The Light Plan has created a general vision, and that is what guides the urban lighting of our city. So even though lighting technologies have totally changed over the years, from HID to LED, we have succeeded in keeping the same vision of the Ghent nightscape as directed by the Light Plan.

On the other hand, there is a lot of private and commercial lighting, which is not in the hands of the city. Commercial lighting has goals that clash with public lighting objectives. Commercial lighting aims to attract people, usually by being more dynamic or adding more intensity. Not all the private and commercial lighting in Ghent requires an official permit, so the city cannot prevent these forms of light nuisance. We are waiting for European or national Belgian laws to prevent this problem, and to guarantee our beautiful but sober illuminated nightscape.

What are some of the challenges you foresee for the future?

There's a lot of work being done, but there's still a lot of work to do. Today, we have totally different lighting technologies compared to 20 years ago when we created the first Light Plan. When we have a new building to illuminate, we try to achieve the same concept and feeling as prescribed in the first Light Plan, but we have to do this with totally new kinds of lighting technology. For example, last year we finalised the monumental illumination of Sint Baafs Cathedral. This looks very much like the original concept of the lighting designer, but we achieved it with 100% LED lighting. So integrating new technologies will be, I think, our continuing mission for the future.

Are there any other lighting technologies that might pose a challenge in the future?

Yes, there is another side to the LED technological revolution: lots of private owners and commercial shops use, and in fact abuse, this technology. And so the balanced nightscape that we have created with our Light Plan is being slowly destroyed by private dynamic LED lighting. In fact, this is not just a challenge, it is more a danger. We have to protect the nightscape we have now.

Integrating new technologies is our mission for the future.

For example, we have what is known as the postcard image of Ghent, which is the Gras and Korenlei-nightscape: the medieval harbour with ancient buildings on both sides. We have worked out an overall lighting installation with monumental illumination, which is beautiful, sober and static. All the architectural details come together in one picturesque visual impression.

But on the other hand, a few shops or restaurants want to make their brand visible to the public. And when you have one of these establishments that uses bright lights, then it mars the carefully constructed view. Even worse, you can have a crescendo effect: when one shop starts, then others follow.

I can understand that such business-owners have different priorities than we do. We think about the city as a whole, but they think about their individual business and the fact that adding commercial lighting attracts people and makes them stand out from the surroundings and their competition next door.

We have a lot of work to do to continue the goals and vision outlined in our Light Plan. But what is the value of a Light Plan when it's disrupted by dynamic commercial lighting? We need to think together about how we can protect the heritage and monumental illumination.

In fact, coming back to what I was saying earlier about the small scale and large scale, I think we need to find a balance. We understand that shop owners need to have commercial lighting. But this should have an impact only on the small scale, on the street level.

Only when you walk as a pedestrian through that street you should see the commercial lighting of a shop on the ground floor. The rest of the building should be free of commercial lighting, so that the upper facade can become part of the atmospheric and monumental illumination of the city, directed by the Light Plan of the city. In this way, when you are looking at the city from a distance, you can guarantee and protect the general nightscape of the city.

For the more dynamic commercial lighting – that should be kept for the smaller scale at street level, but not be allowed to take over the city. I was recently in another city, and I saw a building which had a full facade LED screen for commercial advertisement. When the commercial lighting grows to take over the scale of a building like that, then I think it's one step too far. You need to protect the overall impression of how you want people to feel when they walk through the city at night. ■

The balanced nightscape that we have created with our Light Plan is being slowly destroyed by private dynamic LED lighting.

You need to protect the overall impression of how you want people to feel when they walk through the city at night.



JYVÄSKYLÄ

FINLAND

CONVERSATION WITH

Elisa Hillgen, City of Light Coordinator and Lighting Designer, City of Jyväskylä

JYVÄSKYLÄ

Population: 142 400

Jyväskylä, the seventh largest city in Finland, and one of its largest centres of growth, is known for the high standard of its educational institutions and its technological expertise. It is also famous as the city of architect Alvar Aalto and is home to 30 of his buildings. The entire urban lighting system is owned and managed by the municipality with maintenance outsourced to contractors.

Number of lighting points: 31 731



Elisa Hillgen

City of Light Coordinator
and Lighting Designer,
City of Jyväskylä

**The nightscape should
be in scale with the city
size and style.**

JYVÄSKYLÄ

FINLAND

“City nightscape”, what does this term mean to you?

The city nightscape is the nighttime city image, the visual image of the city after dark. The nightscape is about showing the city during the night, but it is also about helping people navigate in the urban space and have a visual understanding of what’s going on around them. It has a lot to do with safety but it is also about identity of the city. This identity is reflected by the elements of the city we choose to show and illuminate: what kind of architecture we want to emphasise, what kind of routes we want people to take.

Furthermore, there are different scales to the nightscape. You can have the long-range nightscape – which is the horizontal view of the city from afar – as well as a close-range nightscape, which is the street-level pedestrian view, what you see and how you feel in the city.

Why should cities work on their nightscape?

Considering the nightscape is important because we must understand that the city is also seen and used after dark. It does not shut down during the night or during the dark winter months. Nowadays people work in shifts, they have cultural activities, and spend time and money after dark too. That is why we have to think about how we want to show the city – and how we want people to see the city – when it is dark.

Particularly here in the north, where we have long periods of darkness during the year, we want to encourage people to go out and engage in activities and sports after the sun goes down, because it just reduces all kinds of depression and antisocial behaviour. For example, in winter, the sun sets at 4pm. You have so many hours left to do things, which is why we need to encourage people to be active during the dark. We want people to feel safe and to be able to enjoy their surroundings.

What are some of the qualities of a good city nightscape?

I think it is very important to take into account the scale of the city. For example, Jyväskylä is quite a small city, and given our architecture and our natural surroundings, for us a good nightscape would be subtle and modest – at least compared to bigger metropolises.

The nightscape should be in scale with the city size and style during the day. The worst-case scenario would be if you had a beautiful small city by a lake in rich natural surroundings, but during the night it was illuminated with multiple colours and blinking lights and all that. That wouldn’t fit with the city’s style. I believe that what defines a good nightscape is the fact that it emphasises the identity, scale and style of the city at night, hand in hand with the day.

We should also consider that the nighttime is, in many ways, a time to be calm. We try not





to disturb the night with too much light. We need to remember that the nighttime is also for nature. It is important to find a balance between having a city that is lively and appealing, but also giving our surroundings some space for darkness and calm.

Tell us about the daytime landscape of Jyväskylä and how it is reflected in the nightscape...

When you enter the city, you see a lot of bridges and flyovers. These are the gates to the city, and we have illuminated them in a special way. They indicate to drivers that they are entering the city, and that they should slow down, look around and enjoy the view. They also see the lake and the Kuokkala bridge which is one of the most important illuminated structures that we have.

The nightscape, from the long range and on the large scale, is about the horizontal points. We have some pretty high structures like the Kuokkala water tower and a ski jump tower which are important structures, and they are emphasised during the night. So when you come to the city from different directions you can see these high points and then recognise the horizon and see the limits of the city as well.

It is important to balance having a city that's lively at night and leaving space for darkness and calm.

Then coming to the smaller scale, when you enter the city centre, you see the town hall and the city theatre and our main church. These buildings are important in city hierarchy and they are highlighted from the street level. Another important element of the city that is highlighted is the "Green Loop". This is a circle of green parks and natural areas going around the Jyväskylä centre, where there is, or will be, a lot of art, sports and all kinds of activities. This is very important in the daytime, but it is also important to illuminate because people use these areas for outdoor activities after dark.

Lighting the Kuokkala bridge

The Kuokkala bridge is the longest bridge in Jyväskylä and is one of its most famous landmarks.

The street lights on top of this 31 year old bridge underwent a radical transformation in 2013: old sodium lamps were replaced by white light LED luminaires, resulting in a 25% drop in energy consumption and better quality lighting. Each pole received additional light fixtures, increasing the number of lamps to 200.

This street lighting project, designed by LITE-Designs, represents an investment of 130 000 € over 11 years, of which 25% was subsidised by the Finnish State. The use of LED technology allows the municipal government to save 63 000 Kwh annually (which represents the energy consumed by three Finnish homes) and to benefit from easier maintenance. The special lighting on the bridge structure below was designed in 2003 by Roope Siirainen, VALOA Design oy, and this is one of the most important illuminated sites in Jyväskylä.

Tell us the history of your nightscape...

Well the story goes back to the year 2000 when the first lighting master plan was established. And that work really focused on analysing the city and deciding and guiding what should be illuminated, why and how. It was, as far as I know, the first lighting master plan in the Nordic region. We have been following that to construct the nightscape of Jyväskylä for the last 20 years and we are now creating a new lighting development plan called "Spark".



What prompted the city to start a light plan? How did this topic get on the city agenda?

It all began in 1997 when the municipality was renovating a pedestrian street in the city centre. Back then, a designer was working on a custom-made lighting pole with indirect light – which was quite innovative at the time – and Jyväskylä ended up winning the award for best outdoor lighting project of the year in Finland. So that got people excited about lighting.

In addition, every few years, the Urban Planning and City Infrastructure Department used to look for strategic ideas and directions for development. At the time, my supervisor, Service Manager Kari Ström, was visiting Central European cities with another project group and he got some ideas. He also heard about Lyon and its reputation for lighting. That is how he came up with the idea that maybe Jyväskylä could identify as a city of light in Finland. He made a proposal, and light was selected as one of the themes for Jyväskylä's development. After that, the first step forward was to make a lighting master plan. So our lighting master plan is the result of a strategic decision to focus on light and use light as our city brand.

Do you know if the city was looking to create a different Jyväskylä identity or brand at night time as compared to the day?

I don't think decision-makers, or even we, actually understood the scale or the potential of light back then. It was about testing new technical solutions, light sources and luminaires, and trying to achieve energy-savings. I don't think they knew how to use the potential of urban lighting at first. But with help of lighting tests and pilots, workshops and small events, they saw the results: how light impacted the surroundings, how people reacted, and how much activity and tourism increased as a result. They started to realise the meaning and the power of light used as a brand for the city.

Do you have any feedback on what the citizens of Jyväskylä think about their city's nightscape?

The municipality conducted a study in 2009, and about 90% of the answers were really positive regarding our "City of Light" project and the permanently illuminated sites that we have. When people are being active outside, they take and share images of our illuminations; a lot of these images are shared on social media. So I think that the general attitude is really positive.

In the early years people were a bit sceptical, especially about energy-savings. People asked why we were "wasting" money on special lighting when we were trying to save energy. But in fact, it worked out for the best because at the same time we made huge savings by doing new, energy-efficient lighting around the city.

While it is difficult to explain the value of good lighting to the public, it is also something that you can just directly show people, as it speaks for itself. For example, in our city centre, clearly, it is more appealing, and people spend more time there because of the lighting.

If we were to extinguish all the sites that we have illuminated and all the special lighting we have done, this city would be really boring at night. Today, I think citizens really understand

Our lighting master plan is the result of a strategic decision to focus on light and use light as our city brand.

If we were to extinguish all our illuminated sites, cities would be really boring at night.

what we are doing and they are proud of it: people invite family and friends and go around Jyväskylä to see the illuminations.

Tell us about the link between the city nightscape and the heritage of the city...

We have a long history behind our illuminated sites – especially some of the light art and architectural lighting sites. They are not actually listed as heritage sites but they are unofficially recognised as being important to citizens and are often used in our city branding.

In addition, our heritage, compared to the many old cities in Europe, is quite different. A major part of our architectural heritage consists of the buildings designed by the famous architect Alvar Aalto. In fact, we have a very peculiar controversial situation linked to this. Alvar Aalto stated that buildings should “sleep” during the night. The Alvar Aalto foundation, which manages all these heritage buildings, has interpreted this to mean that generally he did not want light on the buildings at night. Therefore, they are sometimes careful about allowing illumination for these buildings as it is their job to protect his legacy. So we need to negotiate with them, and we try to keep the lighting very subtle and stylish, and illuminate the surrounding areas too.

Tell us about how the nightscape relates to the different areas of the city...

We have focused a lot on the city centre as we want people to visit the centre and for it to be lively and welcoming. We also have these smaller district centres near the city core, with public art and shopping areas, but they don't really have their own special night identity; we just try to illuminate them well and create a nice comfortable ambience.

We also have a new modern, beautiful housing area, Kangas, developing very fast. It is an innovative part of our city in an old industrial area with 5G coverage, lots of public art, and lots of potential for illuminated details, facades and playgrounds. So light is crucial there, and we are coordinating and piloting a lot of new things around there. This area also has some very tall new buildings – in fact the highest building in Jyväskylä is now there – so the area is very visible from afar. This means that it will have a major impact on the overall nightscape. In addition, some more new areas with high-rise buildings are being planned by the city zoning department.

We try to work on lighting on two scales – the long-range horizontal vision, and the human scale from the street.

Now we are actually thinking about how we want to handle the illumination of such tall buildings and how they will impact the city nightscape from afar. But I am also concerned about the impact at the street level, because as a pedestrian, areas with tall buildings can be unappealing and scary; it's not our small town feeling anymore. In these areas we are now trying to work on lighting on these two different scales – the long-range horizontal vision, and the human scale from the street. I try to tackle this by asking architects to provide visualisations from the street level and from a distance as well.



How do you manage your city nightscape and what tools do you have to do this?

My job as a Lighting Coordinator is to coordinate all this. I work together with the city zoning department, the building permissions section, urban designers and the general planning department. We have meetings frequently and we go through new projects coming up, and how the old ones are proceeding. I try to “force” light into all of the projects and remind the designers to consider lighting and ensure good lighting solutions.

When there are new areas being designed, in terms of zoning, they sometimes consult with me. And if it concerns important facades or areas, like the entrance of the city, they make a special note in the zoning requirements. If a company starts to construct a building in one of these locations, it is specified that facade lighting is required, and they cannot have the building permit without lighting plans. And when the building design is completed, it will be checked by the municipality and it will not be approved if it does not follow these requirements. Zoning requirements are the most powerful tool that we have at the moment.

How does this translate in practice?

In a perfect scenario, the project would have a lighting designer or a very good team of architects and electrical designers who send me the lighting plans and designs and then I check if it follows our guidelines. If it is a special case or if it deviates from our guidelines, we need to consult with the different professionals involved. But if I approve, they can continue to do test lighting and proceed with the project. Following that, when they implement the lighting, we also check that everything is okay. That way, everything is beautiful and coherent.

It doesn't always work this way because sometimes lighting is forgotten, or sometimes permits go through, or they forget to consult with me. But these issues are just linked to the communication between our departments. And we are trying to work on that.

We would like to make it obligatory to include a nighttime visualisation in building permit applications.



We give free advice on what they could do and what we expect.

Actually, sometimes it can be difficult for the city architects, as when they do receive lighting plans, they don't really understand them. Like mentioned earlier, I am working towards making it compulsory for building designs to also include some kind of visualisation or 3D image of the structure at night. Normally, architects only show the daytime image of buildings so that people can evaluate the design.

But they don't do nighttime visuals, so it's very hard to evaluate what kind of lighting it will have, and how the building will look at night. This is something that we would like to make obligatory: a nighttime visualisation that makes it easier for the city building permit department and city architects to evaluate the plans.

How does it work if the owner of an existing building wants to illuminate their building?

When building owners change their lighting, they are also required to have something like a building permit, only a simpler version. They have to ask for permission to make the changes. They can consult with me, and if they need help with designing new lighting, we can suggest a list of good lighting designers that they can consult with. They also have to provide lighting plans in order to obtain this simpler version of the permit.

It's really all about communication. The lighting guidance I give is free for public projects, it's just a question of reaching out to them. We don't want to restrict them in any way, we just want to give them advice and show what they could do and what we expect.

Of course, sometimes they still don't consult with the municipality and as a result we get some bad lighting situations. In that case, we have to have some kind of tool — some kind of power — to make them fix it. And this is very tricky because if they are a private owner and have already implemented a really expensive lighting scheme, it can be very difficult for them to change it. They are not always happy in this case, but then they also understand that if they had checked with the city beforehand, it would have been much easier for them.

Have there been situations where the municipality has worked with private building owners to re-do their lighting?

Yes, actually I have two cases of this now on my table. One is a hotel which, for some reason, installed big lighting panels which are very glary, cold and ugly. When I asked the city architects how this got through, I learnt it was because they had not received any lighting plans. I then contacted the hotel manager and told them that it needed to be fixed since there were even people from surrounding buildings complaining about the glare. The hotel was very cooperative, and we tried to find solutions to mitigate the glare; they are doing some tests now. The hotel is really trying its best but it will be tricky to fix.

The second case is also a hotel. They implemented a lighting plan that wasn't approved by us and it doesn't follow our urban lighting guidelines. This situation is much more tricky because this is a bigger chain of hotels and not always easy to negotiate with.

So sometimes we have the means to fix things and sometimes we don't. I think all cities should have more power over the urban environment and the different forms of lighting in it. It is not only about business, it's about people living there; the urban space is for everybody.

How do you think you can make people understand the value of a good nightscape?

Actually, now we are working on a new lighting master plan: the idea is to not make a typical map or planning kind of document, but rather a kind of tool to encourage people to think about light. We actually call it "Spark" because we want people to get excited about light. We want building owners and companies to better understand light. Sometimes people just hire electrical designers and ask them to illuminate the building, and sometimes they think that good lighting means a lot of light.

Cities should have more power over the different forms of lighting in the urban environment.

We are working on a new tool to communicate the lighting master plan to non-specialists and encourage them to think about light.

It's related to how you talk to people and partners about lighting in the city.

We want "Spark" to be a tool to show good practices and good examples and help people understand what we want them to do, what they could do, and how simple it can be. We want them to understand the options and get excited about the possibilities that light can bring. So actually it's more of a tool for communicating the lighting master plan to non-specialists.

This is relevant even within the different departments of the municipality, as people take light for granted, they forget our guidelines or they are used to how things are. We need to remind them again about how important light is and communicate more inside the city departments too.

Do you have any other issues with light clutter?

Well, industrial zones often over-light with big floodlights. Also, some big malls outside the city centre have so much light in their parking areas. I actually went there with a luxmeter once and they had around 200 lux on the surface of the parking in the brightest spots. That's really too much.

So again, we have to think about what kind of power of control we have over these zones. I know that there is a light pollution research project in Helsinki where they use drones to identify the worst causes of light pollution. I think in the future we could do something like this too, but in a small city like Jyväskylä, you already know the major causes of light pollution. You just need to find a way to tackle them.

Sometimes it's just a question of education and, once again, communication. For example in private areas where we are not in charge of lighting, we still can help by giving out our guidelines and explain about good lighting. However the guideline document itself is really complex – it's 30 pages of PDF explaining the IP or IK ratings – so I doubt anybody reads it, especially not property developers.

In fact, recently I was thinking about making a shorter, more visual version with things like check lists. Something that is easy to follow and easy to understand instead of a long document of technical texts.

So a lot of this is related to how you talk to people and partners about lighting in the city. We help them to want the same result as we do.

In conclusion: most of the problems we have are linked to the fact that people don't know, they don't understand, they didn't realise; it's generally linked to a lack of communication. That's why we are now trying to find tools to help with this: the new, more accessible lighting development plan Spark, as well as shorter, more visual, simpler versions of all the guidelines that we already have.

What do you see as the next big challenges for the city nightscape?

I think that 5G and other smart city technologies will be a big challenge. Especially in the new city district coming up where they are already implementing these things. I think that

5G and other smart city technologies will be a big challenge.

a major challenge we face is that urban development projects advance so fast and we don't have a way to follow as quickly with new technical solutions for lighting.

Also, in the future, when we think about the cityscape, there will be new dynamic lighting possibilities that will be available, and more and more people will want to use the lighting in different ways. Nowadays if you have a facade, the owners want the lighting colours to change for Independence Day, then Christmas, and then different colours for different awareness days. This is something that also needs coordinating and prioritising: we need to be clear on what we want to do and for what reasons.

There are also the advertising billboards, and company logo signs to coordinate as well, in order to ensure that the nightscape doesn't get too messy. Technically, if you want to install a media facade, you need a permit. We have guidelines on how bright and broad it can be and how often the pictures can change, etc.

What are your needs to be able to address these challenges?

I would like the municipality to have more power related to these issues and also be more involved in the projects. In some cases I'm really involved from day one. But in other projects, you don't have the power to comment on the plans, or you don't even know what's happening, and then it just gets really messy. This comes back to the tools of communicating again.

Ideally, I would like that every time a new project starts, we have a short info-sheet that we give to all the people involved in the project – urban designers, electrical designers, architects, etc. – and we would say, "Before you start doing anything, read this". And the info-sheet would explain in a few simple lines: why Jyväskylä is the City of Light, what we want to do with light and why, and what we expect from them. It could also include a few technical things that need to be considered, and tell everyone to contact the lighting coordinator if they have any questions. This document would ideally do all this in one page, and if everybody would read it before they start their project, they would know the basics.

Such a document would also be useful for the new people who come to work for the city. We assume and expect that everyone working in the municipality knows about the "City of Light Jyväskylä" brand, and they know what we do. But a new city architect or new urban designer might not know about this. It would be great if, when you start working for the municipality, on the first day you would read that same document – what is the City of Light project, what do we expect, and how does this relate to your own work. Luckily our new development plan Spark will have many focused communication tools for different stakeholders and fields, I'm looking forward to having that launched.

Every city has different systems but many seem to struggle with similar issues. That's why it is so important to be able to share ideas and examples with other cities, like we do in LUCI. If there are cities that already have very good practices and examples linked to this, I look forward to hearing about them and sharing all of this to help others too. ■

**Everything comes
back to the tools of
communicating.**





LYON

FRANCE

CONVERSATION WITH

Thierry Marsick, Director of Urban Lighting, City of Lyon

LYON

Population: 513 000

Lyon is a city where historical and cultural heritage are preserved while a continuous urban development ensures its attractiveness and dynamism. The public lighting is directly managed by the municipality.

Number of lighting points: 78 000



Thierry Marsick

Director of Urban Lighting,
City of Lyon

The nightscape is a global perception that immediately gives an identity to a territory.

LYON

FRANCE

What is a “city nightscape”, how would you define it?

A landscape is first of all an outline. Before speaking of nightscape, we should speak about landscape. An outline is what enables us to recognise a place, an ensemble; it is not limited to a building or an object. The landscape is an ensemble that the eye sees as part of a global vision.

In Lyon, we are fortunate to have a landscape which is defined by key characteristics of the city’s topography, its hills and rivers, and this is what provides the frame for creating a nightscape. The first lighting master plan of Lyon was founded on this.

Furthermore, what is important, apart from the global aspect of a landscape, is to see with the achievements made over time, how to highlight what is really important in a landscape.

A nightscape is really a global vision rather than isolated objects. It is a global perception that immediately gives an identity to a given territory.

What are the elements that compose a good nightscape?

Is it really possible to define what is good and bad? In any case, one element of a good nightscape is when people are able to recognise their city’s identity and emblems. I’m thinking of one important element, which is that a good nightscape is not restricted to an object in itself but rather takes into account the way this object is featured within a lighting environment.

As many others do, when we are working on the nightscape we work on the balance between the different sources of light, notably by integrating the functional aspects of public lighting.

For example, when the municipality worked on the atmosphere of the Quai de Saône, at the foot of the Fourvière Hill, a balance was found by ensuring that public lighting would not overwhelm the view over the river banks where domestic light, i.e. the light coming from inside the flats, is an intrinsic part of the nightscape. A good nightscape involves balancing the different types of light.

Shanghai is a good example of this notion of balance. When we went to Shanghai for the LUCI AGM in 2019, even though it’s not my culture, I was impressed by the work done to balance out the various lights, beyond the city’s dynamism and colourful landscape. Here we saw two ingredients of a strong nightscape: identity, which enables recognition, and balance, which enables the harmonious reading of a night painting. I think the work done there is very interesting.



Should the nightscape be static or dynamic?

I cannot give a simple answer to this question because it depends on the culture. It cannot be an absolute truth. One is either sensitive or not. If you take the example of Shanghai, everything is in constant movement. It's colourful, and that's a choice. I couldn't imagine something similar in Lyon. As I was saying, a nightscape is an outline that should also enable the identification of a territory, which brings us to the question of the identity of these territories.

We all have our own identity, which results from history, culture and a sensitivity that varies from one city and one country to the next.

On the other hand, what is essential to me is to avoid trivialisation and copying what others do, lest we lose our own identity. Doing in Shanghai what is done in Lyon? No, it wouldn't be a good idea. We have an image of Times Square precisely because it is there, in Times Square in New York, and not anywhere else.

It is essential to avoid trivialisation and copying what others do, lest we lose our own identity.

Lyon's lighting master plans

1989 – Lyon's First Lighting Master Plan: It was a pioneering initiative with political, technical and artistic impact. By overseeing the permanent illumination of over 250 sites, it gave the city a whole new face. Light was no longer used only for security reasons; it became an essential component of the urban environment.

2005 – Second Lighting Master Plan: It went much further, breaking away from monuments to focus on the link between light and territories and use in the city. Light began to follow the life and rhythms of the city, highlighting rivers, hills, silhouettes and major roads. Sustainable development was a key priority, making it possible to add nearly 1000 light points each year, while reducing energy consumption by 33%.

Today lighting reflects each district through district lighting plans (Duchère, Confluence, Part-Dieu, Gerland, Montchat, etc.) creating lighting atmospheres adapted to the specific identity of these territories.

If there is coordinated, well thought-out action with the aim of expressing what constitutes the essence of territory, yes, this is important indeed.

In Lyon, we do not have uniform identities throughout the territory. There is the historic centre with the postcard view of the Fourvière Hill. It's a specific atmosphere. We are currently seeing another identity emerging in the neighbourhood of Part-Dieu. The Gerland neighbourhood has its own nighttime identity, which has been greatly shaped by what Laurent Fachard did in the Gerland Park and the appearance of a new aspect of our "light language": colour. This doesn't mean we will reproduce this throughout the territory. It is necessary to preserve a balance, which is why there is no simple answer to the question of whether a nightscape is good or bad. It must be part of a carefully structured approach.

Tell us more about what you mean by structured approach...

It is linked to urban planning and the coordination between the development of a territory and a unique policy that also applies to nighttime. It is important to consider nighttime as more than just the prolongation of daytime.

Clearly, light has been a key factor in the territory's development. Everybody here remembers what Lyon looked like before the first lighting master plan. It was a city that didn't live at night. Public lighting has fostered a number of activities that didn't exist before the first Lighting Master Plan.

The city's rhythm, temporality and pace through light are also characteristic elements of this nightscape. Light gives the city its tempo, but with a singular beat.

It is a seldom explored domain, in particular the link between light and the intensity of nighttime activity. It raises questions about the rebalancing of nighttime territories. In some areas in Lyon, there is a lot of nighttime activity and people want to go there. They are attracted not only by the light but also by the quality of public spaces, which shapes the way people use them. In particular, the city's nightlife is concentrated on the banks of the River Rhône and the River Saône, as well as the Terreaux Square. I notice that the general atmosphere in these areas is rather peaceful. Nevertheless, the intensity of nightlife also creates tensions. Activities and people are concentrated in these places, more so than in other areas of the city, so there is definitely work to be done in this respect.

Lyon's new Lighting Master Plan, dating back to 2005, sought to better link lighting with usage. There is thus this notion of temporality. It is about lighting first and foremost for human activities and not only for the sake of lighting.

**Light gives the city
its tempo, but with
a singular beat.**



This is even more the case today, as the general trend is towards being much more responsible with the distribution of light in order to better respect biodiversity, the circadian rhythm, the Earth, and health in the way we behave in the city at night.

You were talking about nightlife policy. Does Lyon have a specific policy on nightlife?

Part of the nightlife policy is specifically geared towards regulating tensions that appear at night. I think we haven't thoroughly explored this. We need to understand that citizens at night are not the same as citizens during the day.

At night, when people meet each other, they know there will still be more time afterwards whereas during the day, when you book an appointment, you know there will probably be another appointment right after that. The day is punctuated by all sorts of commitments, which are lifted at night. At night, there is much more freedom and we are less constrained by social commitments. Daytime is very codified and rhythmic. There are limitations, whereas nighttime is a time of freedom. It is a totally different spirit and this needs to be understood. This means we might have to transform some of our urban services, which are not available at night.



Good quality urban lighting creates a signature, a specific local style.

Are there cities or nightscapes that you like or don't like?

There are things I don't like. Without mentioning any city in particular, I'm thinking about suburbs where the lighting is purely functional with the objective of providing a certain quantity of light. Quality is seldom present.

This is really a challenge for our territories, where we focus on central districts rather than on the suburbs. It is not always the case. Some cities work on this aspect, but generally, in industrial zones, the lighting is strong, sometimes ultra-strong, and uninteresting, devoid of any charm.

I also have some favourites, mostly during visits organised by LUCI. I love Rotterdam! It's a municipality that works seriously on the city at night, and there is something very graphical in Rotterdam's nightscape. There is also something that is quite singular and original, which you cannot find anywhere else. It's not about having a lot of light but rather lighting that is balanced, "in tune", meticulous and relevant.

Other cities are totally different, such as Ho Chi Minh City, which takes particular care of the lighting of its historical heritage. I was also impressed by Shanghai's efforts on what I call their "light writing style" and the collaborative work that has been done.

This is what urban lighting is about. Good quality urban lighting means it is well coordinated with private lighting, thus creating a signature, a specific local style.

Coco Chanel used to say that fashion goes out of fashion whereas style never does. This is very true. In fact, the danger for many of us is to fall prey to fashion and forget to build a proper style. Style is a sort of writing that is free while respecting certain codes. This is what makes a difference.

Fashion means doing what my neighbour does, and then throwing out what is out of fashion. Style on the other hand preserves its essence through time; it always exists. These elements are part of the heritage. In the end, light is in itself heritage, but this idea has not yet taken hold here in France and abroad.

You said a territory should have its own style. How can cities find their lighting style?

The process through which a certain style takes shape is very complex. How do you decipher style? How do you bring about or decide on the lighting style of a territory? There are a number of determining factors that facilitate the emergence of style, the first of which is to be able to think in the long term.

It is a series of guidelines that you can call light strategy or plan, in other words clearly worded guidelines on how to deploy a specific style on a given territory.

Our first Lighting Master Plan, which focused on highlighting our heritage and showcasing the land-scape, ran for a period of some 15 years. The second Lighting Master Plan, which was much more oriented on usage, on how to integrate temporality in the city, on renewing a creative process and on sustainable development, did not totally cancel the first one. It was conceived to enrich it.

In the end, this brings us back to the issue of fundamental values that we strive to develop and reflect through our city's "style". When we talk about our city, we need to be able to link it with the identity of our territories.

Are there other determining factors to highlight the style and identity of a city through light?

Beyond politics, it obviously involves having the necessary means. Will is nothing without means, which result from a political decision. It is thus necessary to include this strategic aspect of urban light as a reflex that we should all have.

In my view, Lyon's Lighting Master Plan is powerful because it features a simple rule: any team working on renovating a public space must include a lighting designer/engineer. This simple rule guarantees that any urban development includes the nighttime dimension. It's just essential!

It's also about the capacity of elected officials to involve private stakeholders in this policy. Light is not only public; it is urban in the sense that it also involves private actors alongside public ones. The former also contribute to building this urban light.

It also means strong project management. You need to have people at the helm with strong competences to lead this policy and stay the course of the Lighting Master Plan.

Light is in itself heritage.

Light is not only public; it is urban in the sense that it also involves private actors alongside public ones.



A city's nightscape shapes its nightlife.

This means a lot of investment. Why should cities invest so much in their nightscape?

Investing is important because a city's nightscape shapes its nightlife. It's that simple. If the lighting creates an atmosphere that is soothing, poetic, beyond mere functionality, it might foster other types of nighttime activities that are more geared towards leisure and making the night attractive.

An example of the opposite is the lighting of many housing complexes, which have an almost prison-like lighting. In order to address tensions linked to traffic or insecurity, floodlights are installed around a building, creating a prison-like atmosphere. What identity does that give a neighbourhood? That of a tense, conflictive place.

For example, in the Duchère neighbourhood in Lyon, we decided to change that and to create a much more pleasant atmosphere. Take the example of Ciné Duchère: this is a Brutalist building made of concrete, but thanks to quality nighttime lighting, it has become a landmark of the neighbourhood. When the lighting system is out of service, the local residents do not say, "your lighting doesn't work" but "our lighting"! They have appropriated the space. I noticed recently that when you search Ciné Duchère on Google, one of the first image that appears is a nighttime view. The nighttime image has become the Ciné Duchère's identifier.

Tell us how Lyon's nightscape was created throughout the years...

Urban planning has long been part of Lyon's approach. This is important because without planning and vision, you get lost. You must have a vision of where you want to go, and how.

So we had to first work on the source material, i.e. colour, and consider it as a key element to take into account in urban planning. Back then, the city's heritage was not even particularly highlighted in daytime, and even less so at night. Lyon first adopted a "colour plan", before its Lighting Master Plan, and worked on colour composition. The other core motif was that of the bow and arrow, which meant basing the urban planning on the city's rivers (the bow) and orienting the urban dynamics towards the east (the arrow). This vision was developed by Lyon's Urban Planning Agency.

When the Lighting Master Plan was designed, it was based on the rivers, in particular with the lighting of the bridges on the Saône River and the Rhône River. It included the colour code of the Colour Plan, i.e. cold white for the proglacial river (the Rhône River), and warm white for the alluvial river (the Saône River).

With the concept of the arrow, the notion of perspective was introduced. The first Lighting Master Plan was based on a research on Lyon's points of view and lines of vision, which showcase its historic heritage.

Going back on how this master plan was built over the years, it's interesting to notice that it was at first focused on the city centre — the peninsula and the Fourvière Hill in particular — as per the rationalist principle of the best cost/impact ratio (we are indeed the children of Descartes!). But there was also a will to develop the lighting throughout the city, including by lighting up the churches, town halls and in some cases, schools situated in the centre of various neighbourhoods.

You mentioned Lyon's points of view and lines of vision. Could you elaborate on that?

Indeed, there are "postcards" that embody a city's image. The city is built around its emblems. In Lyon, these are the Fourvière Basilica, the City Hall, the Saint Jean Cathedral, the Palais de Justice: these landmarks compose our landscape. On the other hand, there are what I call "points of view" that uniquely evolve, for example on the river banks. We are not only interested in lighting up a building but rather in taking into account the whole surrounding landscape.

I'll take the example of Lyon's Music Academy (Conservatoire Supérieur de Musique): the building itself is lit up, but so are the balmes (the rocky hillside) behind it. Often, we try to bring depth of focus in order to shape the nightscape.

Is it necessary to create a different image of the city at night compared to daytime?

Yes and no. No because we cannot tell two different stories around the city's symbolic landmarks. And yes because nighttime lighting cannot be the same as daytime lighting.

We are not interested in only lighting up a building but rather in taking into account the whole surrounding landscape.

Light must be closely linked to the real functioning of cities.

It is all about governance: how can we mobilise all actors and make them aware of the importance of urban lighting?

Daylight is harsh, raw; it doesn't hide the places we'd rather keep in the shadows. On the other hand, this is exactly one of nighttime lighting's great advantages.

What makes things a bit difficult sometimes is when private stakeholders try to stand out in a given environment. They don't seek to tell the same story but rather try to draw attention through light.

What are the main challenges in creating and building nightscapes?

The challenge today is to manage the contradiction between growing demand for lighting and the preservation of the environment.

Historically, the demand for lighting was motivated by the need to protect the safety of people and goods, and later, with the appearance of cars, that of motorists. When you look at the history of public lighting in France, the challenge was to make cities safer through lighting.

Then came the economic need. Light is a factor of economic development; it can effectively transform the image of a territory and generate economic activity. A major part of nightlife, including tourism, is linked to the lighting. Quite simply, light allows us to maintain activities that are carried out in daytime, and it also enables new forms of leisure activities during the night. There is also the environmental challenge, i.e. preserving biodiversity and taking into account the impact of light on health.

I believe we can only balance these contradictory needs by taking into account the so-called "temporality", i.e. lighting at the right moment and in the right way, and linking light with the way public places are used in a given territory. Lighting must become more intelligent and be closely linked to the real functioning of cities. This is an important challenge.

Another challenge is our capacity for coordination and for rallying private actors, who are by essence individual entities, to a common, public and political project. As I said, light reveals, so the question is whether we want to reveal ourselves only for ourselves or as part of a collective project. It's totally different. Look at Shanghai for example: the Pudong skyscrapers are each lit individually, but our Chinese friends achieved a feat in coordinating the quality of the lighting and working on a coordinated light intensity.

At the end of the day, this is about governance: how can we mobilise all the actors and producers of light in a given territory so they become aware of the importance of urban light as regards to a city's quality, identity and unique style that make a difference? Light is a reference point in a given territory. Without coordination, the risk is to see uniformity and trivialisation.

Today, light is a differentiating factor. Unfortunately, we often see the opposite: because of their lighting, cities are becoming increasingly similar. This is the objective of some stakeholders. Private "light producers", like leading retail brands, want to have uniform aesthetic codes that identify them, whether they are in Bangkok, Lyon or Montevideo. A McDonald's restaurant is the same everywhere because of its graphic identity. These types

of stakeholders can have a strong influence on a territory, and this is where we need to work in a complementary manner. But it is possible to remedy this. I'll take the example of the Part-Dieu shopping mall where we try to integrate private operators into a "Part-Dieu style", for example by removing the colours from the signs.

And what about the challenges linked to dynamic lighting?

Technology facilitates access to light but it also makes it harder to enforce regulations. Let's not forget that commercial lighting is regulated, but regulations hardly cover the quality of lighting. I'll take the example of the French decree of 7 December 2018 on light pollution: it covers the amount of light but not its quality. This is obviously a complex issue.

Do you receive requests by citizens for a more dynamic public lighting?

Should we follow the whims of fashion? I'm not sure. In any case, this is a real debate. Each day, we receive requests for red, pink, green or other kinds of special public lighting in order to celebrate such and such special day. But the city must preserve its identity. It cannot become some sort of rainbow.

Will "smart lighting" help resolve the contradiction between the need for more lighting and environmental protection?

For a very long time, urban lighting was considered through a technical, functional lens. The first step was to consider it as an object that could create an atmosphere, which is when we started to talk about light direction and focus. A new vocabulary emerged that included a new dimension, that of art and poetry. In the old days, lighting was always frontal. Then, lighting design emerged, bringing a new dimension, a more subtle way of working that sought to reveal the character of a building or a place and to add some poetry to public spaces. People became aware there was another way to create lighting.

Today, we are in a complementary stage, which still includes this first approach but also seeks to adapt lighting to usage of the city in a smart way. With interactive automated systems that are much better connected to usage, there is a new capacity to transform our spaces and to tackle the double challenge of security and environmental protection.

For Lyon, one of the challenges is to know how to benefit from the available technology in order to change the perception of lighting in the city. There is a financial and human resources question necessary to follow through with this evolution. If today the answer is obvious, it is because there has been an evolution of skills and know-how. It is another way of thinking about and managing our lighting.

What do you need to better work on the nightscape?

The challenge today is to raise awareness among citizens and elected officials on the importance of lighting for a given territory, and in particular the urban night, which is

Light gives us a new capacity to transform our spaces.

Public-private cooperation in the Part-Dieu district

The Part-Dieu district is the commercial and financial centre of Lyon. In order to better manage the evolution of the nightscape of this ever-developing neighbourhood, the municipality has developed the Light Plan for Part-Dieu, which is an adaptation of the general Lighting Master Plan of Lyon for this specific neighbourhood.

Through an action coordinated with the stakeholders of the Part-Dieu district, the municipality regularly organises lighting workshops to present the challenges of the lighting of the Part-Dieu territory to investors, promoters, consultant-landlords and architects. The Light Plan for Part-Dieu is presented and developers are encouraged to gather professionals specialised in lighting and project development, following which there is an exchange on the project and whether it is in line with the challenges and expectations expressed about this territory.

still little known and hence not properly treated. But this is quite essential and fundamental. We must learn to think in qualitative and not only quantitative terms.

At the same time, setting quality criteria can be difficult...

Well, we know how to take quality into account when we examine building permits. It requires exchanging with architects, urban planners and local authority technical services to precisely achieve this urban quality. Why couldn't we do the same for light?

Regulation is not an end in itself but a means to open a dialogue. Unfortunately, this is not the case today as regards to light. There is no awareness, maybe because we do not take into account the nighttime aspect of a city. At the same time, regulation is not sufficient without a coordinated, operational structure to monitor quality.

We are working on this in Lyon at the moment by creating a guidebook that will include guidelines on private lighting. The guidebook is being produced by a group of architects and lighting designers, and the plan is to also involve a group of stakeholders that will include shop-owners and other entities interested in the quality of light at night. This publication will also facilitate dialogue with public stakeholders. Moreover, it has an educational purpose,

which is to explain what lighting is and how a public lighting project is built. The idea is to raise awareness and to bring together sectors that do not know each other.

How is this dialogue initiated?

There is a statutory obligation which is a building permit. The first contact is established because there is the need to build together an architectural project. The objective is to move from this mandatory dialogue to an exchange around lighting. Sometimes, it can be surprising but it often becomes something that is built jointly and genuinely shared by all the relevant stakeholders. When it works, it's really satisfying because we've managed to advance a project by including its nocturnal dimension and adding quality. I believe that the topic of the quality of lighting is often ignored in building projects simply because the challenges are not well known.

What means or tools do you have to help you cooperate with private stakeholders?

The guidebook that we are currently working on is such a tool. Each time we are able to give advice on a private project, we do it. After that, it boils down to how well the different stakeholders get along with the municipality of Lyon. There is a delicate balance to strike between allowing creative freedom and establishing a sort of mandatory dialogue:

Regulation is not an end in itself but a means to open a dialogue.

it enables us to supervise and properly coordinate the whole project. This is exactly what we intended to do in the Part-Dieu neighbourhood.

The nightscape is also composed of places and buildings that are more or less intensely illuminated, which in turn is the reflection of a sort of “battle of the egos” between different, emblematic objects. It’s not easy to tell someone, “Look, sorry, we know you are important, but not as much as this or that symbolic object.”

Why did the City of Lyon choose to directly manage public lighting rather than working through subcontractors?

The system we have in Lyon has several advantages, in particular that of reactivity. We could ensure that the long term vision is sustained through other types of contracts, but only if there is good project management. That’s the most important: that the project management involves long-term vision.

By regularly investing, we are able to keep pace with technology developments. Technology is not an end in itself, but a tool at the service of a project.

But indeed, some cities completely transform their public lighting over the course of one mayoral mandate. They’ve done something, and then they just wait for 20-30 years for the equipment to be amortised.

Investing regularly and soundly allows for transforming the nightscape over time and not remaining static, and it is this transformation that enables us to accompany the evolution of the various territories.

Do you have feedback on how Lyon’s citizens feel about their city’s lighting?

One example of how citizens can be associated in the design of a policy on lighting is through what we call “EVALUMS”. These initiatives bring together research labs, other private actors, and industrial stakeholders interested in lighting, who all strive to understand the needs of citizens. They can focus on any given topic, for example the management of the lighting ambience or simulations testing various lighting schemes and ways of designing urban atmospheres. Tests of this type have been conducted with small, ad-hoc groups of citizens, and they have enabled us to know more about their expectations.

Another way we associate local residents is through projects. When a project is being designed, residents are invited to share their views on its nighttime lighting scheme. This has been done several times, and it is interesting to note that in fact, vocabulary is often the issue. In these exchanges, the first thing that comes up is the link between light and security. But afterwards, with a bit of pedagogy, we manage to speak more about mood and atmosphere. The exchanges are also an opportunity to learn how to “read” the nightscape. ■

**Investing regularly
and soundly allows
for transforming the
nightscape over time.**



ROTTERDAM

THE NETHERLANDS

CONVERSATION WITH

Daisy van Eijck-Nilwik, Senior Advisor, Public Space, City of Rotterdam

ROTTERDAM

Population: 651 000

Rotterdam is the second-largest city in the Netherlands and one of the largest ports in the world. It is known for its university, cutting-edge architecture, lively cultural life, striking riverside setting and maritime heritage. The municipality is in charge of the public lighting management and procurement and works with contractors for the maintenance.

Number of lighting points: 106 500



Daisy van Eijck-Nilwik

Senior Advisor,
Public Space,
City of Rotterdam

The nightscape brings a balance and offers a structure to a city at night.

ROTTERDAM

THE NETHERLANDS

“City nightscape”. What does this term mean to you?

For us, the city nightscape refers to the way we want to light up the city in the dark hours. It refers to not only the lighting of beautiful buildings, structures or statues, but also the way we want to light the city as a whole, including the living areas.

It is important to bring a balance and offer a structure to a city also in the nighttime. A city nightscape can do that. A good city nightscape can have different aspects and should be in balance with the culture of the city and its environment. For example, the lighting colour temperatures that are used in Nordic countries are very different from those used in Mediterranean countries. Similarly, nightscapes in some cities are more dynamic compared to others, and that is also based on their different city cultures and images. In Rotterdam, we opt mainly for static lighting and not too many colours.

Could you describe the daytime landscape of Rotterdam today?

Rotterdam started as a dam constructed in 1270 on the Rotte River and it has grown into a major international commercial centre today.

Its strategic location on the North Sea and at the heart of a massive rail, road, air and inland waterway distribution system extending throughout Europe is the reason that Rotterdam is often called the Gateway to Europe.

Today, Rotterdam is home to the largest seaport in Europe and a global maritime hub. At the same time, the city centre located on the north shore still bears traces of the bombardment of the city in 1940 during World War II. Once reconstruction got underway after the war, public space in Rotterdam was the focus of considerable attention. Today, the spaces left empty as a result of war-time destruction have been filled with modern architecture.

So the daytime landscape of Rotterdam is that of a rather modern city, with a strong structure of main roads and modern buildings in the city centre. For the public space, the city has designed a special layout for several specific areas.

Tell us about the creation of the city nightscape of Rotterdam...

As a way of giving new priority to the “architecture of the night”, in the year 2011, we commissioned a lighting master plan for the whole city: the centre, the district areas as well as the industrial areas.

We initiated this because we wanted to achieve a better designed quality of nightscape as well as dayscape that would strengthen the leisure function of our public spaces. We also aimed to increase efficiency of public lighting maintenance by introducing standardisation



in lighting fixtures and masts. And of course, a major objective was to reduce energy levels by using technological innovations so as to contribute to sustainability on a citywide scale.

Our Light Plan, developed with the lighting designer Ulrike Brandi, outlines a set of lighting levels and defines a colour temperature range for the whole city. We aim for a broad use of warm white light, lower and more consistent lighting levels, a careful adjusting of luminous beams, improved lighting techniques, and a homogeneous system of masts and fixtures whose number will be reduced. We are also very careful about light pollution.

The Light Plan Rotterdam is also linked to the Handbook Rotterdam Style (2008) which lays out a city-scale strategy for “achieving a coherent design and continuity for the quality of urban space”. Our Light Plan takes the city’s historic and spatial characteristics into account. It sets out lighting schemes for specific areas within Rotterdam, to reflect the different facets of the city.

We have tried to create one coherent nightscape composed of different layers of light.

Using the principle of “layers of light”, our lighting strategy allows for the addition of extra light layers to enhance particular urban elements such as architectural landmarks. So we have tried to create one coherent whole nightscape composed of different layers of light.

What are the different urban identities highlighted in the nightscape?

We have different lighting schemes for specific urban identities which are characteristic of Rotterdam by night.

Rotterdam, city on the waterfront: The waterfront is currently being transformed into a leisure area. This enables a better perception of the views over the river and along the shores. The lighting strategy therefore introduces less light dispersion and light pollution along the river Maas.

Rotterdam, green city: in line with our ecological goals for flora and fauna and the policy of “dark skies”, we generally avoid illuminating parks and green areas in the city unless they are intersected by traffic routes which require lighting for traffic and community safety.

Rotterdam, city of architecture: our strategy for the illumination of icons, national heritage buildings, monuments and historic neighbourhoods are based on the city branding.

Tell us more about the bridges and structures that are iconic elements of your nightscape...

The Light Plan identifies about 50 special objects (bridges, buildings, other structures) that are icons of the city, and that should be lit at night. We have limited the number to 50 because we want the city night view to be subdued with these icons as the landmarks of the city. So most of the specially lit objects are in or around the city centre.

The illumination of these icons to stand out in the city nightscape reflects the identity and heritage of our city. They are what our city is known for: modern and old bridges, some rather old and historically important building and a lot of modern architecture.

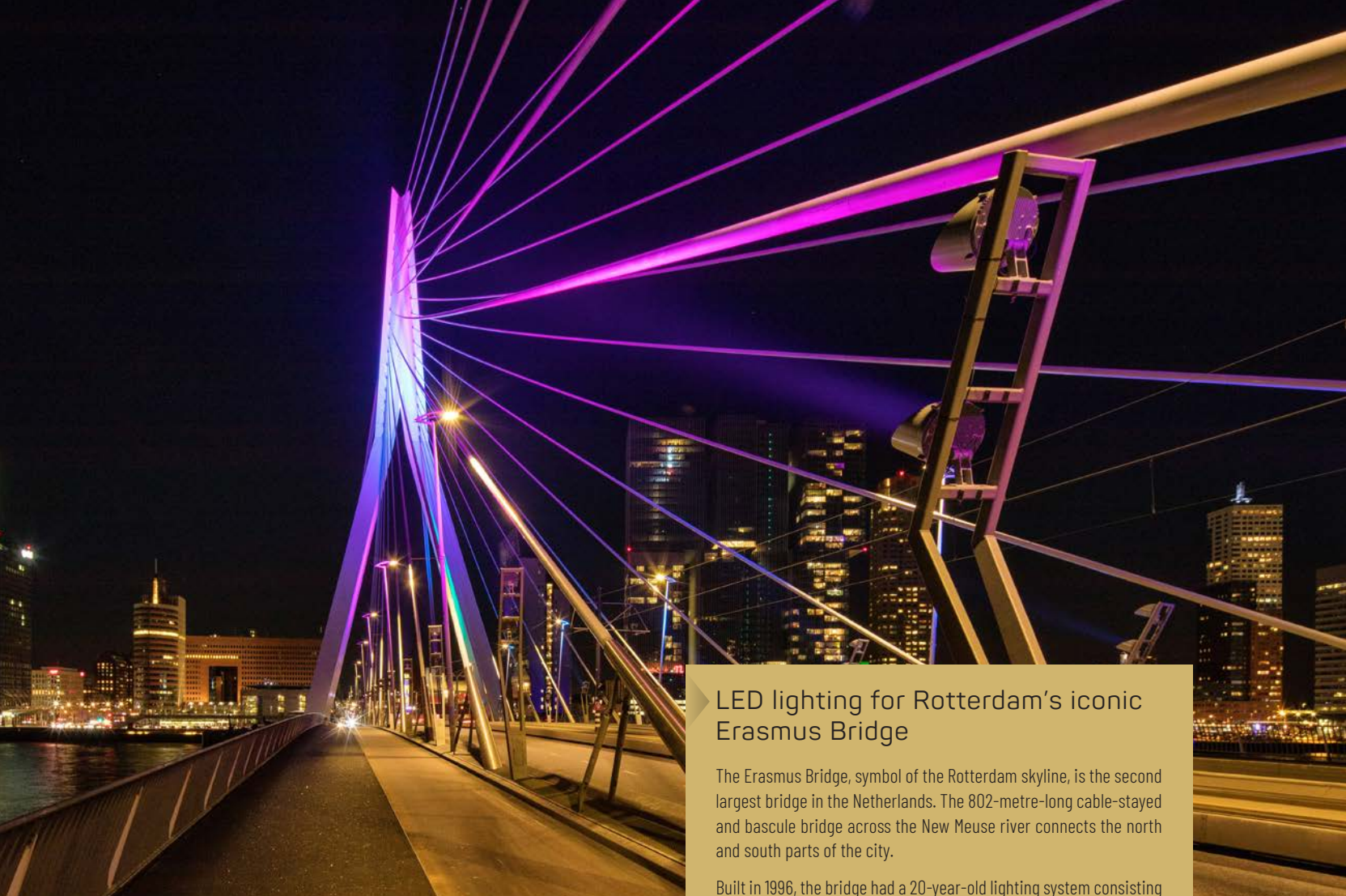
Our nightscape is not yet recognised as part of the city’s heritage. But that is also because we have only just begun seriously investing in it since 2010.

Tell us more about the layers of light in the Rotterdam nightscape...

We have introduced layers of light and lighting accents for extra ambiance and orientation in the city. The different types of facade and canopy lighting in the city, illumination of architectural icons and connecting routes accent lighting all derive from this concept.

Using this principle of layered light, we also aim to incorporate the lighting of shop windows in the design for the public lighting of the sidewalk. This approach strengthens our “City Lounge” policy, which aims to develop the city centre as a leisure area and the public space as the “living room of the city”.

The nightscape reflects the identity and heritage of our city.



What are the main challenges related to the nightscape in the short, medium and long term?

A challenge is always the financial means that a city wants to provide for the urban lighting. It is always a challenge to find the budget to fit our ambitions.

In addition, another challenge is that we do not have a structured team that works on this topic of the nightscape. We have a landscape department, but they have more interest in creating a good daytime view.

In my opinion, I would like to install a permanent team to manage the nightscape of our city, with a programme and a budget.

LED lighting for Rotterdam's iconic Erasmus Bridge

The Erasmus Bridge, symbol of the Rotterdam skyline, is the second largest bridge in the Netherlands. The 802-metre-long cable-stayed and bascule bridge across the New Meuse river connects the north and south parts of the city.

Built in 1996, the bridge had a 20-year-old lighting system consisting of 86 gas discharge lamps with an installed power of 36 000 W. A switch to LED became possible in 2017 with the advent of new technology suitable for the long bridge cables which extend up to 300 metres.

The new lighting design, which involved the architect of the bridge, Ben van Berkel of UNStudio, aimed to retain the appearance of the original lighting. In addition to the standard illumination in white, the municipality was also looking for the possibility to implement different colour patterns on the bridge for special occasions.

The new lighting of the bridge uses 68 LED fixtures (34 white and 34 multi-colour) with the DALI protocol control system. It has 20 pre-programmed colour patterns and lighting scenarios designed by ACT Lighting Design. The new system has lowered the energy consumption of the bridge lighting by up to 70%, saving 50 400 kW of energy and 26 500 kg of CO₂.



▶ The Rotterdam light route: a new light on the cityscape

The Lichtroute Rotterdam map guides people through 44 illuminated sites and works of light art in Rotterdam. Jointly created by the Municipality of Rotterdam and Centre for the Arts (CBK) Rotterdam, the map includes information on each lighting project.

Featured projects include the *Giant of Rotterdam*, the *Kraatpaal* and the Erasmus Bridge, as well as light artworks such as *Light Gig* in LantarenVenster or *Broken Light*, Rotterdam's very special street lighting initiative. The Lichtroute Rotterdam map is available free of charge at the Rotterdam Tourist Information Office.

How is the work on your nightscape organised, who does what?

In general, the nightscape and public lighting is the responsibility of the public works department in cooperation with the landscape department. The projects of lighting the 50 icons of the city as identified in the Light Plan, are implemented by the public works department. This department is also responsible for all decisions linked to the maintenance of the lighting nightscape as well.

Their work follows the guidelines established in the Light Plan. With the Light Plan we really aimed to incorporate the nightscape in the design of streets and buildings. The Light Plan not only enables us to make designs, it also helps us to judge quality. This approach facilitates the interdisciplinary collaboration of the public works, town planning and landscaping departments, as well as the municipal Rotterdam Climate Initiative.

To what extent does light from private sources interfere with the city nightscape?

As in most cities all over the world, private sources of light interfere more and more with the city nightscape. Video advertisement screens



are a major source of interference. Another source that disturbs the nightscape is the often very intense lighting in the shop windows. The city is working on regulations for all forms of advertisement in public space and there is a first regulation on lighting levels on this subject.

Do you know what the inhabitants of Rotterdam think of their city nightscape?

We actually have no hard data on how citizens perceive our city nightscape. But we always have very enthusiastic responses at the inaugurations of newly illuminated objects, and we often hear it said that the citizens like the nightscape more and more! ■



SEOUL

SOUTH KOREA

CONVERSATION WITH

Dae-Kwon Kim, General Manager of Urban Light Policy Division,
Seoul Metropolitan Government

SEOUL

Population: 9.7 million

Seoul is the main commercial, manufacturing, administrative and cultural hub of South Korea. The city's history stretches back over two thousand years. Today the Seoul area contains five UNESCO World Heritage Sites amongst its many modern skyscrapers. The public lighting is managed and maintained by the Seoul Metropolitan Government.

Number of lighting points: 536 422



Dae-Kwon Kim

General Manager of Urban
Light Policy Division,
Seoul Metropolitan
Government

**We are creating a
cityscape that citizens
can experience and
enjoy physically and
emotionally.**

SEOUL

SOUTH KOREA

Tell us about Seoul and its landscape...

The major determinants of what makes Seoul are its nature and history, as well as its citizens.

Many cities around the world have created cityscapes by maintaining and preserving their unique scenic characteristics, such as buildings and squares of the past and the present. Over the years, Seoul Metropolitan City has undergone an excessively large number of urban redevelopment and waterside residential area development projects during a phase of intense growth. In the course of this, the historical, natural, and scenic landscapes of Seoul have significantly deteriorated. This, however, has served as momentum to arouse public awareness on the necessity of systematic landscape management.

Accordingly, we have been dedicating more effort to preventing further damage, and have been creating a new cityscape. We have established a system to enable comprehensive management of the city's history, nature, and landscape. By taking a step beyond visual scenic management, we are creating a cityscape that citizens can experience and enjoy physically and emotionally; a cityscape that reflects their lives and culture as well as the history and stories associated with each location.

Seoul has an unprecedentedly unique cityscape that is comprised of our historical landscape centring on Hanyangdoseong, the Seoul City Wall, our natural landscape with four mountains surrounding the city together with four main gates and a river flowing across it, and our urban landscape showing the image of Seoul as a contemporary and high-tech city.

These are the characteristics of Seoul's cityscape when viewed intuitively. The landscape of Seoul also has a variety of other colourful aspects. We are establishing a plan for Seoul for the next 20 years, based on the future image of the city and the development orientations to create the cityscape based on this plan.

In your view, what is a "city nightscape"?

Seoul Metropolitan City defines urban lighting as artificial lighting necessary for the happy and safe life of citizens and for the identity of the city. In this regard, I define city nightscape as a nightscape comprised of the city urban lighting.

In fact, many cities, including Seoul, focus considerably on policies and projects related only to the daytime, when the city is seen in natural light. However, it is the role of a city administrator to map out a plan to develop the nighttime – which occupies half of each day – in a better way as well.

It also provides new opportunities: through the city nightscape, we can create yet another



image of the city and also establish a characteristic night culture, which can serve as a driving force for strengthening the city. We can also enrich people's experience of the city and provoke further reflection through lighting at night. It frees people from the repetitive and routine tasks of daily life and provides them with a chance to exchange with one another and build social cohesion. Seoul Metropolitan City has established the vision of "Seoul, a City of Harmonious Light Created by Citizens."

A good city nightscape must also improve citizen safety. In each region, we must also strive to create balanced city nightscapes in order to enhance citizen happiness. In addition, a good city nightscape must reflect regional characteristics by expressing the city's identity, history, and symbols, while enhancing its competitiveness as a global city. A good

Seoul is a City of Harmonious Light Created by Citizens.

nightscape must also be developed with future-oriented and environmentally friendly urban lighting systems through ICT convergence.

I think there is no set standard for a good nightscape. I also think that neither way is superior nor inferior to the other. Each city can create a nightscape that befits its image and unique colour by using an appropriate method.

There are many cities that have great nightscapes. Personally, I like the city nightscape of Singapore. And from a different perspective, to me, the best nightscape is a starry sky that harmonises well with the artificial lighting of a city. In a way, a city and the stars are incompatible. Even so, I long to see stars in the night sky, which I have not been able to do for so long.

Tell us how the nightscape of Seoul has been developed...

I would say our recognition of the importance of city nightscapes and the development of a Seoul nightscape began in 2000. We conducted a study on the basic plans for Seoul's nightscape in 2000 and a study on different Korean regions' nightscape planning in 2002. The results of these studies led to the establishment of a basic plan for landscape lighting in Seoul in 2005.

In 2008, we established a nightscape plan for the city. Under the basic direction of "gentle, yet dynamic nightscape of Seoul," we set the three key words for the project, which are "identity," "safety," and "beauty."

Under the new vision of "Seoul, a City of Harmonious Light Created by Citizens," we established the 2030 Seoul Lighting Master Plan at the end of 2018 by looking ten years ahead, and setting out detailed project plans for each area and landscape type.

So, within the framework of the 2030 Seoul Lighting Master Plan, which we are implementing at the moment, we have established seven strategies and 21 tasks in order to realise "happy urban life, beautiful city nightscape, and smart city lighting," which are the three goals of the project.

Among many needs, creating a nighttime image that is different from that of the daytime is necessary for activating tourism and the local economy. The tourist spots in Seoul that are popular at the moment are those seen in daytime tours. Despite the global trend to emphasise the importance of night culture to boost tourism and city's competitiveness, Seoul Metropolitan Government's nighttime tourism strategy has been rather ignored.

The Seven Strategies of the Seoul Lighting Master Plan

- STRATEGY 1 Establish a symbol of Seoul lighting
- STRATEGY 2 Discover nighttime content and identify locations to strengthen the identity of Seoul
- STRATEGY 3 Establish plans for media facades and advertising lighting development
- STRATEGY 4 Develop safe and smart urban lighting systems
- STRATEGY 5 Improve nighttime environment through connection with urban regeneration projects
- STRATEGY 6 Improve citizen-friendly nighttime environment in districts
- STRATEGY 7 Promote coexistence between nature and people, and exchange policies with other cities

What are some of the main elements that have structured Seoul's nightscape?

The structuring of the city nightscape has been very much based on our Seoul Metropolitan City system of lighting environment management zones. This is a system that establishes the order of the city's nightscape by setting out standards for differentiated application of light and lighting levels for each living environment across Seoul. This is actually a compulsory process imposed by the national government on all cities in the country.

So, the entire Seoul city area is divided into four zones, including green zones for preservation, green zones for production, residential zones, and semi-industrial/commercial zones. For each zone, different lighting criteria for street lighting, decorative lighting, and advertising lighting are applied. Of course, the main elements of a city, which are roads, open spaces, and urban districts, are also included. This contributes to the creation of a structured and systematic city nightscape.

Tell us more about how the nightscape varies across different areas in Seoul...

For a complex city like Seoul, it would be difficult to create a city nightscape that only has one single aspect. So, we have developed lighting plans for some different areas to highlight their unique characteristics.

For example, in the south-eastern area of Seoul, we created a dynamic and innovative nightscape by designating Teheran-ro and Yeongdong-daero in Gangnam as a "Free Outdoor Advertising Zone (FOAZ)" with the Ministry of Interior and Safety.

On the other side, in the north-eastern area, we created a static nightscape with subdued colours in order to develop the area as a space for citizen relaxation with use of the many parks and Jungnangcheon Stream that flows across the area.

But in general, rather than focusing on the "specific" neighbourhoods, we intend to create the nightscape in a direction that everyone, regardless of age and ability, can enjoy and experience.

Through the living zone planning, Seoul Metropolitan Government has subdivided citizen living spaces by region and set goals accordingly. For the Seoul lighting project, we are trying to increase the power of execution by securing coherence with this higher-level plan.

How did you incorporate the daytime landscape elements of the city into your nightscape work?

The incorporation of Seoul's daytime and nighttime landscape elements can be explained in terms of five space types: landmark, cultural property, square and park, waterside, and scenic.

As for the landmark-type space, it is a space that represents the nightscape of each area in Seoul. The examples are Namsan Seoul Tower and Seoul Square, which are sites that symbolise their respective areas. An example of a nightscape element for this type of space are media facades. Rather than simple architectural lighting, a nightscape of

We have developed light plans for different areas to highlight their unique characteristics.

interesting dynamic elements can be created through the combination of a landmark building and video art.

Have you favoured certain view points when creating your city nightscape? If so why?

In Seoul, there are a variety of not only daytime, but also nighttime, view points, such as the bridges on the Hangang River Bridge, Namsan Mountain, Seoulo and Dongdaemun Design Plaza. However, as opposed to the Eiffel Tower in Paris and the Opera House in Sydney, I don't think these view points remind people of Seoul immediately or contribute to creating a unique urban brand of the city. I believe it is necessary to develop an icon of light (a specific view point) that represents Seoul.

By providing citizens and visitors with visual and perceptual experiences created by light and also by building a symbol of light containing the history, culture, and philosophy of Seoul that could be strongly imprinted on them, I think we will be able to enrich their experiences and increase the depth of thinking.

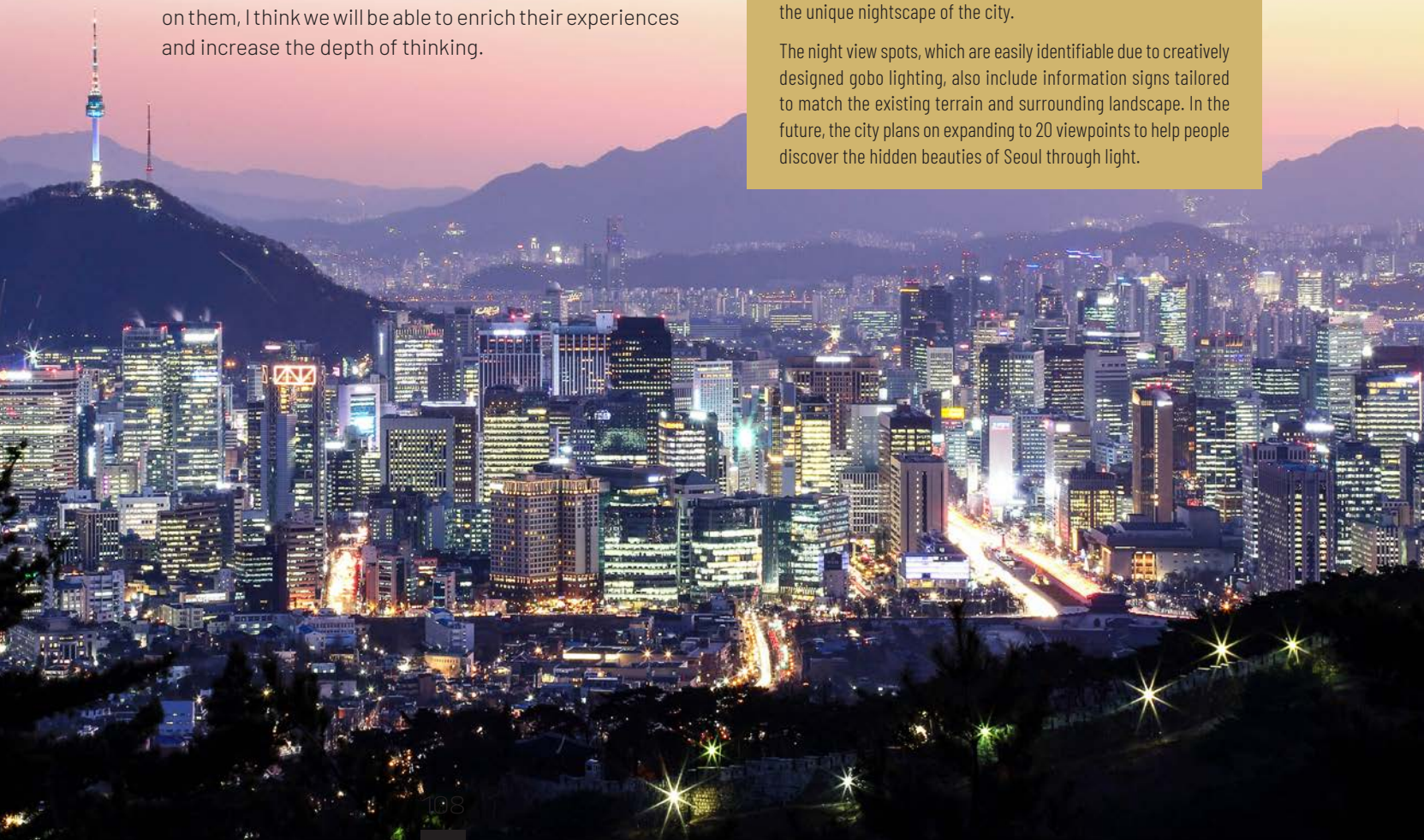
Seoul's "Top 10 Best Night Views" competition

The Seoul Metropolitan Government (SMG), in collaboration with city inhabitants, has selected the 10 most beautiful night views of the South Korean capital. These top 10 sites are easily accessible locations where citizens, as well as the approximately 13 million yearly tourists looking for a unique nighttime experience in Seoul, can admire the lights of the city.

This is the result of an initiative launched by SMG, in 2015, in which the public was invited to "Find the 10 Best Night Views of Seoul". Out of the 160 spots suggested by the public, 10 viewpoints were finally selected by a jury composed of experts in design, tourism, history and photography. Amongst the selected venues are Gwanghwamun Square, Banpo Hangang Park and Bugak Mountain Skyway.

The development of this "Top 10 Best Night Views" project has become a turning point in the development of Seoul's night culture. It is a perfect way of drawing attention to the lights of Seoul and the unique nightscape of the city.

The night view spots, which are easily identifiable due to creatively designed gobo lighting, also include information signs tailored to match the existing terrain and surrounding landscape. In the future, the city plans on expanding to 20 viewpoints to help people discover the hidden beauties of Seoul through light.



How important is the construction of a city nightscape for Seoul? Was this a priority?

The level of interest in the nightscape and its quality increased as the interest in nighttime culture expanded with the increase in spare time and the rise of the tourism industry. As a result of these changes, popular daytime spots began to be recognised as characteristic places for nighttime culture through landscape lighting, which then led to diversified decorative lighting.

What is the link between the city nightscape and the identity or heritage of your city?

In my opinion, the link is the “desire” of the city to combine these elements. It is manifested in the city’s desire to create a night image (nightscape) by emphasising with light what it wishes to reveal; its desire to bolster its identity by highlighting the cultural heritage that reflects its history and philosophy; and its desire to enhance its value by activating tourism. In this way, the nightscape is linked to the city’s identity, heritage, and many other things.

Tell us about the main challenges related to your city nightscape...

Even though it is an essential part of a nightscape, artificial lighting causes light pollution. The excessive glare of commercial lighting in particular is one of the main causes of light pollution. A big city like Seoul faces a challenge to concurrently block out light pollution as it improves its nightscape.

Following the Act on the Prevention of Light Pollution due to Artificial Lighting, Seoul Metropolitan City designated lighting environment management areas across the city in 2015. Since then, we have been striving to establish a systematic order and to manage the city’s nightscape, such as for example, through differential applications of luminosity by area according to the living environment.

Having established the order of the lighting and improved it accordingly, the next step would be to ponder upon how we can create a more enriched nighttime culture in the city.

I suggest we create a nighttime culture that can be enjoyed by all wherever they are, by discovering a variety of lighting-related content based on regional characteristics. This, I believe, will also bring about positive effects on tourism as well as the image of the city.

Also, for the nightscape development in Seoul, we have been taking a top-down approach in general. We need to think about how to increase inputs from local communities in the course of improving the city’s nightscape.

Every year, Seoul Metropolitan City involves citizens when compiling the upcoming year’s budget through the “mVoting (mobile voting)” system. The projects for nightscape improvement proposed by citizens have also been adopted a number of times following internal and external review.

While it is important to start individual new projects according to the needs and demands of each local community, it is also necessary to devise a way through which we can create a

A nightscape of interesting dynamic elements can be created through the combination of landmark buildings and video art.

Seoul nightscape that incorporates all local communities. In addition, establishing objective indicators to assess positive or negative impacts of lighting would be considerably helpful.

Briefly tell us about some of the tools you have established to develop and maintain your nightscape ...

A wide range of stakeholders are involved in our nightscape project. Every new nightscape project needs to be approved, based on the relevant laws and ordinances, by a deliberation committee. The Seoul Metropolitan Government has established the Good Light Committee with 40 members, all of whom are experts and government employees working in the fields of design, architecture, landscape, electricity (energy), and lighting (LED). The Committee holds meetings every Tuesday and also as frequently as necessary. It deliberates on various agendas ranging from street lighting to media facades.

For example, in Seoul, the number of civil complaints regarding light pollution caused by security lighting is relatively large. To manage this, we have established lighting output criteria based on a simulation of lighting illuminance according to the conditions of the area. Once a month, the Good Light Committee checks the sites associated with the issues presented for deliberation and, together with lighting experts, jointly inspect the state of lighting installation and whether the committee's deliberations and recommendations have been implemented.



In addition, the Good Light Committee also provides training on a regular basis to relevant employees and officials of Seoul Metropolitan Government and autonomous district offices in charge of urban space lighting design.

Do you have any data on what citizens think of Seoul's nightscape?

In November 2017, the City Light Research Team (composed of 50 citizen participants) conducted a questionnaire survey of a total of 250 local residents. It took photographs of at least 30 locations in each district, surveyed citizen opinions regarding five categories (park/architecture/road/outdoor advertising/history and culture) and gave feedback on what citizens found to be good, bad, and ideal. The results of this survey have influenced our work on the 2030 Seoul Lighting Master Plan.

Through the Good Light Committee meeting, which is held weekly, citizens' needs and demands for outdoor lighting installation and improvement have also been identified. In addition, citizen complaints about light pollution and its negative impacts are investigated in terms of each light source, through quarterly light pollution monitoring in each district. In addition, we use the results of light pollution monitoring when securing and allocating budgets for annual "improvement of light environment in residential area" projects that are executed each year.

As such, we are making efforts to create the light of Seoul together with citizens by asking their opinions. We would like to establish a social lighting master plan, and we are also striving to establish the City Lighting Living Lab in order to improve the spaces that are old and neglected but are closely related to the lives of citizens. ■

We have brought together different stakeholders in a Good Light Committee which discusses issues ranging from street lighting to media facades.





SHANGHAI

CHINA

CONVERSATION WITH

Ding Qinhua, Director of Landscape Management Division of Shanghai Municipal Administration of Green Spaces and City Appearance

SHANGHAI

Population: 23 million

Shanghai is China's most populous city and the second largest city in the world. With a history of more than 700 years, today Shanghai is a modern metropolis and a global economic, financial, trading and shipping centre. The Shanghai government manages the overall lighting strategy with lighting design, procurement and installation being outsourced.



Ding Qinhu

Director of Landscape Management Division of Shanghai Municipal Administration of Green Spaces and City Appearance

The nightscape is the overall scenic picture of the city – a combination of light, architecture and public space.

SHANGHAI

CHINA

What does the term “city nightscape” mean to you? Why is the nightscape important?

Broadly speaking, a city nightscape is the overall scenic picture of the city at night which is a combination of light, architecture and public space.

A narrower definition of the nightscape would be to say that it is the urban nighttime landscape formed by artificial light to decorate the city.

The city nightscape is an important part of the city's image and has a major impact on the socio-economic culture in the city as well as the life of the residents.

What are the elements of a good nightscape?

A good city nightscape should be in sync with the economic development of the city. Secondly, it must conform to the culture of the city. Thirdly, it should create an ambiance in the city that is comfortable and suitable for its citizens to live in. At the same time, it should combine static and dynamic elements to attract tourists.

In fact, I think that whether the city nightscape should be dynamic or static is not absolute, as long as it conforms to the city's positioning and overall image.

For Shanghai, I feel that static lighting should be the mainstay. In certain areas, it can be supplemented by dynamic changes at the appropriate time in order to make the night scene richer.

In the cultural aesthetic system of a city, light, like other cultural phenomena, reflects the beauty of the city through its own unique way of expression. In my opinion, for Asian culture, the Victoria Harbour nightscape in Hong Kong is very beautiful, stylish, dynamic and attractive.

Could you describe the daytime landscape of Shanghai?

Due to historical reasons, Shanghai is full of mixed cultural elements from the East and the West. Shanghai's most important characteristic is being tolerant of diversity. So in terms of urban landscape, its design integrates Chinese and Western culture.

In addition to Chinese-Western integration, the main characteristics of Shanghai's urban landscape are a disciplined approach to management, as well as a strong emphasis on cultural heritage.

If we talk about the Shanghai city core, you can say that it is bisected by the Huangpu River. The historic centre of the city was located on the west bank of the river. Today this west bank is known as the Bund, and it is famous for its well-preserved colonial era buildings.



On the other side of the river, the east bank, we have a large number of modern buildings in Lujiazui, such as the famous Oriental Pearl Tower.

Tell us about the history behind the nightscape of Shanghai...

Shanghai is a city that has “grown up” with light. Lighting has accompanied Shanghai’s evolution from a village to a global city.

As early as the 1920s, Shanghai was known as the city that never sleeps. The official use of artificial decorative light to promote the city nightscape began in the late 1980s. In fact, Shanghai was one of the first cities in China to develop a lighting policy in 1989.

After the International World Expo of 2010, the City of Shanghai municipal government began to focus even more on landscape lighting.

**Lighting has
accompanied Shanghai’s
evolution from a village
to a global city.**



Our nightscape has become an indispensable “business card” for the City of Shanghai.

Today, after 30 years of development, Shanghai’s urban nightscape is famous all over the world. Its nightscape has become an indispensable “business card” for the city of Shanghai.

The structure of Shanghai’s nightscape reflects specific strategies of the municipal government of Shanghai. It is government-led and planning-oriented with diversified investment and social participation.

One of the goals of the City of Shanghai is to create a more attractive nightscape. Our lighting strategy aims to highlight Shanghai’s rich heritage while also making innovations that explore the use of new materials and products.

The creation of a good city nightscape is a priority for the city of Shanghai and this is reflected by the fact that it has been included in the key tasks of the municipal government. It therefore receives focused attention and supervision from the main municipal government leaders, with strong funding and policy support.

What are some of the key features of the Shanghai nightscape?

Shanghai has more than 20 kilometres of illuminated skyline along the Huangpu river. Our nightscape reflects our city’s culture of being tolerant of diversity. It features Chinese cultural characteristics fused with the charm of Western culture.

The nightscape combines the historical and natural environment of the city. It aims to improve cultural and ecological protection and harmonise landscape lighting and other buildings.

With artificial lighting techniques (emphasising key architectural features with light, creating shadows and volumes, etc.), the buildings and public spaces collectively become

part of a city night scene that is different from the daytime landscape. In the process of creating this night scene, it is important for us that the beauty of the light reflects the beauty of the built environment, giving the daytime landscape a new charm at night.

Our nightscape construction also takes into account the different characteristics of different districts of the city. For example, the Bund waterfront, which is famous for its historic architecture, is one of the highlights of Shanghai's nightscape. We also have a perspective on the other side of the Huangpu river – the recently developed Pudong area with its modern dynamic skyline composed of several skyscrapers including the famous Oriental Pearl tower.

So one side of the river nightscape reflects the history and past of Shanghai with historic buildings and subtle, elegant lighting on the Bund. The other side of the river reflects the modernity and vibrancy of growing Shanghai, with more dynamic, colorful lighting on the Pudong area skyscrapers.

Tell us more about the famous Bund nightscape...

The Bund is a symbolically important area for Shanghai. In some ways, the lighting of the Bund represents the history of Shanghai. It shows its evolution from a village to a global city that brings together western and oriental culture.

We began the process of renewing the Bund nightscape in 2017. We wanted to create a classic night view highlighting culture and architecture, that would be dignified, delicate and elegant.

We wanted to highlight the architectural details of the buildings; particularly emphasising details like the texture of the building material, its colours and the reflections on the water.

We conducted a lot of tests to find the correct colour temperature for the lighting for the buildings. We also conducted interviews with tourists and citizens to determine their needs and identify areas that needed more in-depth regeneration. At the same time, we also wanted to explore innovative lighting solutions.

The new lighting of the Bund was inaugurated in autumn 2018. It features connected and tunable white LED facade lighting on 23 major buildings on the Bund. We have also reduced the number of street poles so that the walking area along the river is uncluttered. That way people have a clean background for photos of the city! We have also created music to keep pace with the lighting changes in the area: people can hear soft music in tune with the changing nightscape.

Tell us about some of the tools that your city has put in place to develop and maintain the nightscape on the long term...

The development of the Shanghai nightscape is planned and coordinated by the government departments. The government guarantees full support from public funds. Private stakeholders and investors also respond positively, leading us to form a multi-investment

It is important for us that the beauty of the light reflects the beauty of the built environment.

The lighting of the Bund represents the history of Shanghai, bringing together western and oriental culture.

We have a dedicated department for landscape lighting because the nightscape is so important for us.

model. So the city nightscape is a municipal government product and part of the city's public infrastructure.

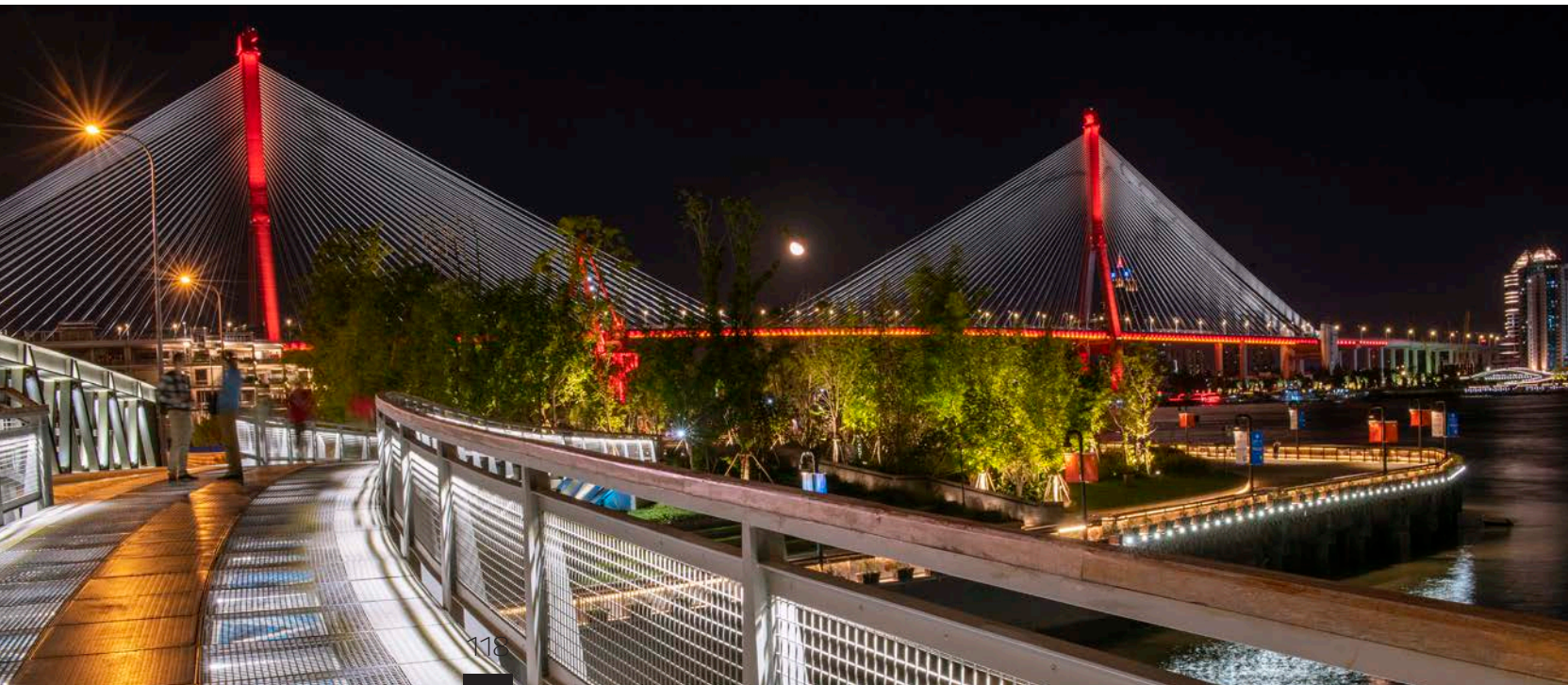
In other Chinese cities, there is often only one department that is in charge of functional street lighting as well as landscape lighting in parallel. But in Shanghai we made these two aspects separate and have a dedicated department for landscape lighting because of the importance of the nightscape for our city.

We have clear division of labour. The landscaping department is responsible for the overall nightscape lighting plan. Following that, the different city district authorities take care of the actual implementation. The overall effect is then checked and approved by the city municipal government.

We have a general lighting plan, but the district governments can implement this plan with flexibility. So it is important for us to be able to control the overall quality. It is a control-based plan instead of a construction-based plan.

In Shanghai's core zone, which is the Bund and Lujiazui area, Pudong, we are more flexible on the brightness levels, they can be higher than the rest of the city. We have also determined an acceptable range of lighting colour temperature, as it is not practical to fix only one temperature as we need to take into account the varying natures and materials of different buildings in the area.

We have different lighting scenarios for different districts integrated into our overall lighting control system. These different scenarios are based on different uses of the districts – whether they are residential, commercial, etc. The ultimate goal of this is of course, to ensure livable and lovable spaces for Shanghai.



Do you have any data on how inhabitants perceive Shanghai's nightscape?

The construction of the urban nightscape should be people-oriented. The most important purpose of our city nightscape lighting development is to create a comfortable light environment for the citizens. Therefore, we pay a lot of attention to the feelings and needs of residents. For example, before the implementation of the nightscape lighting plan, we publicly solicited opinions through the government website in order to listen to the thoughts of the people.

Another example is that the government department will reconsider the feasibility of a certain nightscape lighting project if the public has expressed major concerns about it. Therefore, public opinion affects the government's development of the city nightscape to a large extent.

In addition, in recent years, Shanghai has made some evaluations of the effect of nightscape lighting projects in specific areas through on-site measurements and questionnaires on citizen satisfaction.

To what extent does light from private sources interfere with the city nightscape?

This problem also exists in some areas of Shanghai, mainly because of the lack of legal support and technical standards over the years. We are solving this problem through legislation and the development of technical standards, as well as establishing a set of long-term management mechanisms.

Tell us about the main challenges linked to your city nightscape...

During the nearly 30 years of city nightscape development, we have encountered many challenges, such as the lack of legal support to require building owners to carry out nightscape construction, the lack of technical standards to regulate light pollution disputes, and the lack of master planning which caused over-lighting problems in some areas.

We believe that these problems can be addressed through legal regulation, planning guidance, standard deployment and policy support. In terms of city nightscape, the next major challenge for Shanghai is healthier, more stable and more sustainable development.

The city aims to further develop its lighting according to the ambitious objectives of its 2035 Shanghai Master plan (which puts an increased focus on citizen needs), while simultaneously ensuring zero increase in energy used for landscape lighting.

We will require the support of creativity, design, new technologies, new products and new processes, to create a livable city nightscape that is full of inspiration and vitality, to reflect urban culture, diversity and sustainability.

So we need to partner with organisations like LUCI to create more opportunities to share and discuss urban lighting management, creative design, advanced technologies and products and lighting ideas! ■

The construction of the urban nightscape should be people-oriented.





STRASBOURG

FRANCE

CONVERSATION WITH

Anne Pernelle Richardot, Deputy Mayor in Charge of Public Lighting
and the Light Plan from 2014 to 2020, City of Strasbourg

STRASBOURG

Population: 281 000

Strasbourg, in northeast France, is the official seat of the European Parliament. Its historic city centre, the Grande Île (Grand Island), was classified a World Heritage Site by UNESCO in 1988. The city is home to the famous Strasbourg Cathedral. The public lighting is managed by the municipality.

Number of lighting points: 33 000



**Anne Pernelle
Richardot**

Deputy Mayor in Charge
of Public Lighting and the
Light Plan from 2014 to
2020, City of Strasbourg

**In Strasbourg, making a
nightscape is important
because it strengthens
a feeling of belonging
among Strasbourgeois.**

STRASBOURG

FRANCE

What is a “city nightscape” for you?

It encompasses the atmosphere created by public lighting and the specific lighting design of the urban landscape, as well as all the light produced by private spaces and buildings, advertising, shop windows and special event lighting.

This nighttime landscape varies according to natural conditions such as the weather (for example, rain or fog), and the sky (starry night, moonless night, moonlit night...). It also varies according to the different moments of the night (for example, lighting is switched off in the middle of the night, or the intensity is reduced...) and seasonal events (Christmas lighting, summer shows).

The lighting of a city at night must be designed according to various imperatives, the first one being safety, which is its historic function. Today, public lighting also has aspects linked to aesthetics, emotion, identity and attractiveness. It takes into account how people use public spaces, as well as the quality of life. Furthermore, it enhances the city’s heritage, which is shared by all its inhabitants, whether it is a historic district or a building that is emblematic of an industrial past.

Why should cities consider the nightscape?

Cities must reflect on the consistency and harmony between their daytime and nighttime landscapes. In Strasbourg, making a nightscape is important because it strengthens a feeling of belonging among Strasbourgeois local residents as well as the city’s touristic attractiveness.

But the question is: do we build a city by prioritising its external aspect, i.e. for tourists and visitors, or for local residents? There’s a difficult balance to strike. In Strasbourg, we have tried to enhance the historic past as well as elements that foster feelings of belonging and identity among local residents.

What makes a good nightscape in your opinion?

It is important to strike a balance and to avoid “black holes”, with a city core peninsula with outstanding buildings that are illuminated as opposed to other parts of the city. This principle is valid in Strasbourg as in many other cities: there is a tendency to illuminate places with outstanding buildings, and the further away you go from the city centre, the more you see “total darkness”, areas where lighting is merely functional and linked to security and safety.

It is thus important to balance the enhancement of the city’s heritage with the necessary continuity between residential areas and the city core. Also, the nightscape must preserve the sky, the fauna and flora, and consume as little energy as possible.



How would you describe Strasbourg's daytime landscape?

Strasbourg's main characteristic is its historic centre, which is listed as a UNESCO world heritage site and includes numerous medieval and Renaissance buildings. These landmarks include Notre Dame Cathedral with its 142 metre-high spire that dominates the whole Alsace plain; the "Little France" neighbourhood with its half-timbered houses, alleys and embankments; the Ill River that surrounds the big island and its banks, and some large squares such as Place Kléber, Place du Château and Place Broglie.

This core peninsula is surrounded by water and has a number of embankments and bridges that structure the mobility of Strasbourg residents. It is an area where many students live, but also families, and which has numerous shops as well as a lively night life. It is thus an area that is not only a tourism hotspot; Strasbourg is not a museum-city.

Other distinctive areas are the Neustadt, the imperial German neighbourhood listed as a UNESCO world heritage site in 2017, and the European district that symbolises the construction of Europe with its modern buildings. We also have a number of wide

Award-winning heritage lighting

The city of Strasbourg inaugurated the new lighting scheme for the newly renovated Place du Chateau square in 2013. Located in the heart of Strasbourg's "Grande Île" – a UNESCO World Heritage site – the Place du Château includes several museums as well as the renowned Notre Dame Cathedral.

The primary objective of the lighting scheme, designed by the firm L'Acte Lumière, was to magnify the space and provide a harmonious balance between the Cathedral, the historical buildings and the more contemporary square. Both light and darkness are used in order to create a pleasant nocturnal atmosphere.

The Cathedral – which is the second most-visited cathedral in France after the Notre-Dame in Paris – was also integrated into this initiative: in 2016, the city unveiled a subtle and energy efficient LED lighting scheme, also by L'Acte Lumière, enhancing the volumes and materials of the gothic masterpiece.

thoroughfares such as Avenue de la Liberté. The neighbourhoods surrounding the city each have their own history and characteristics. Lastly, the city has a number of large public parks such as the Orangerie and the Citadelle parks.

How was Strasbourg's nightscape built, and how has it changed over time?

The history of Strasbourg's nightscape has several phases. In the 1980s, heritage buildings and sites were illuminated, such as the Aubette, Place Kléber and the Saint Pierre le Vieux church. The first Lighting Master Plan was established in 1990, and included a general plan for public lighting and the planning of lighting schemes due for renovation.

In the year 2000, over 60 landmarks were illuminated, most of them with wall wash lighting with some additional highlights. The objective was to renovate and modernise existing equipment and to prioritise the outskirts of

Strasbourg so as to encourage nightlife, more local activities and a better quality of life. The idea was to use light to showcase and enhance these neighbourhoods, their character and identity, while preserving some unity throughout the city.

Since 2010, major sites of the city centre have been illuminated within the framework of a lighting master plan: the quays, the Place du Château square, the Notre Dame de Strasbourg Cathedral and the Saint-Thomas Church. This lighting master plan focused on the heritage in the centre in order to promote tourism.

Over time, the municipality came to the conclusion that there was too much a contrast between the central area and the other parts of the city, which is why we are currently reviewing the lighting of the areas outside of the centre, as well as in transition areas.

Also, in October 2015, Strasbourg was the first large French city to sign the Charter of the National Association for the Protection of the Sky and Night Environment (Association nationale pour la protection du ciel et de l'environnement nocturne, ANPCEN), thus committing to reducing light nuisances.

Tell us more about transition areas and the role of light there...

One of the big challenges facing European cities is avoiding becoming divided: one city for the rich with lighting and infrastructure, and another one for the poor where the only function of lighting is to ensure safety.



Areas of transition are “urban seams” such as tunnels for pedestrians or cyclists. We have studied the lighting of several cities in the world, such as Edinburgh, Ghent, Glasgow and Sydney. There’s still a lot to do but we have started to create lighting environments that avoid black holes and divides. We want light to create links because it is a great tool to foster feelings of belonging among local residents. The nighttime lighting must enhance these urban transit spaces so that local residents feel they belong to their city.

What are the objectives of your nightscape strategy?

Our reflection on nighttime spaces focused on Strasbourg’s architectural aspects, spaces of transition, the central areas of the different neighbourhoods, and specific points. We have also prioritised environment-friendly measures, notably mandatory switch off at the latest at 1am.

We want light to create links – it is a great tool to foster feelings of belonging among local residents.

Both private and public stakeholders must move in the same direction on habitat and environment protection.

Our strategy is based on six principles:

- A just lighting with an eco-friendly approach in order to control the light output and energy consumption.
- Enhancing the city's heritage.
- Enhancing Strasbourg's European dimension, its European, modern identity.
- Enhancing different neighbourhoods by highlighting outstanding or iconic spaces.
- Enhancing "urban seams" by linking the different neighbourhoods, strengthening territorial unity, and facilitating mobility.
- Conserving natural spaces by reducing light pollution.

What are the main characteristics of Strasbourg's nightscape?

Our nightscape is both rich and harmonious, with more than 250 illuminated sites.

The centre is mainly lit with traditional street lights and an overall warm white tone. In this area, the priority is to enhance the historic character of the various sites and buildings, while respecting their structure and architecture. There are also illuminated shop windows, as well as luminous signs and some private buildings and hotels with special lighting. Luminous advertising signs are regulated in this zone.

The European area has modern urban furniture with an overall white warm lighting ambience. The permanent and seasonal lighting is meant to celebrate Europe in general and specific events such as the European Parliament sessions.

Each different neighbourhood's identity is enhanced by lighting, with specific light points at night.

As I mentioned before, we also consider the transition areas between the neighbourhoods. Most of them consist of "rupture points", i.e. bridges, tunnels or railways that are like borders that reinforce urban, economic and social differences. The Lighting Master Plan's objective is to create continuity between these neighbourhoods and the city centre, as well as to reduce feelings of insecurity among local residents and create points of attraction. These lighting projects are characterised by various colour schemes, lighting materials, and specific designs. This highlighting is innovative in its implementation (through neighbourhood associations, artists or lighting designers), its originality and interactivity (with residents or external events), and its adaptability (it can evolve according to local life).

It is also very important for us to respect natural green spaces. The City of Strasbourg embraced this issue in 2015 by signing the Charter of the National Association for the Protection of the Sky and the Night Environment (ANPCEN) and by implementing a series of environmentally-friendly schemes. In parks, gardens and woods, light pollution has to be reduced, anticipated or limited as much as possible by opting for low intensity lighting and a narrow spectrum. Furthermore, public lighting in the main public parks has to be switched off between midnight and 6:30 am.

Is it necessary to create a different image of the city in daytime and at night?

Yes, because the city doesn't have just one image: it is multifaceted and people use it in different ways, in particular at night when there are also people who work and move around. At night, a city such as Strasbourg must enhance its life, economic activity and cultural dynamism in a different way from daytime.

What tools do you have to manage Strasbourg's nightscape?

We have a department for policing buildings; the Lighting Charter; the Charter for the Eco-Design of Public Lighting; the ANPCEN Charter, and the ISO 50-001 certification for the management of energy. In addition to the green and blue belts set up by the French government to preserve the environment, we are envisaging the implementation of a "dark sky (or darkness) belt" to reduce light pollution at night.

What are the main challenges regarding Strasbourg's nighttime landscape?

The first challenge is technical and involves further upgrades of our public lighting, notably installing LEDs which offer a range of technical and colour options, are easier to maintain and have a lesser environmental impact. Another technical challenge is to become a "smart city", allowing us to be more environmentally-friendly and to offer improved services to residents.

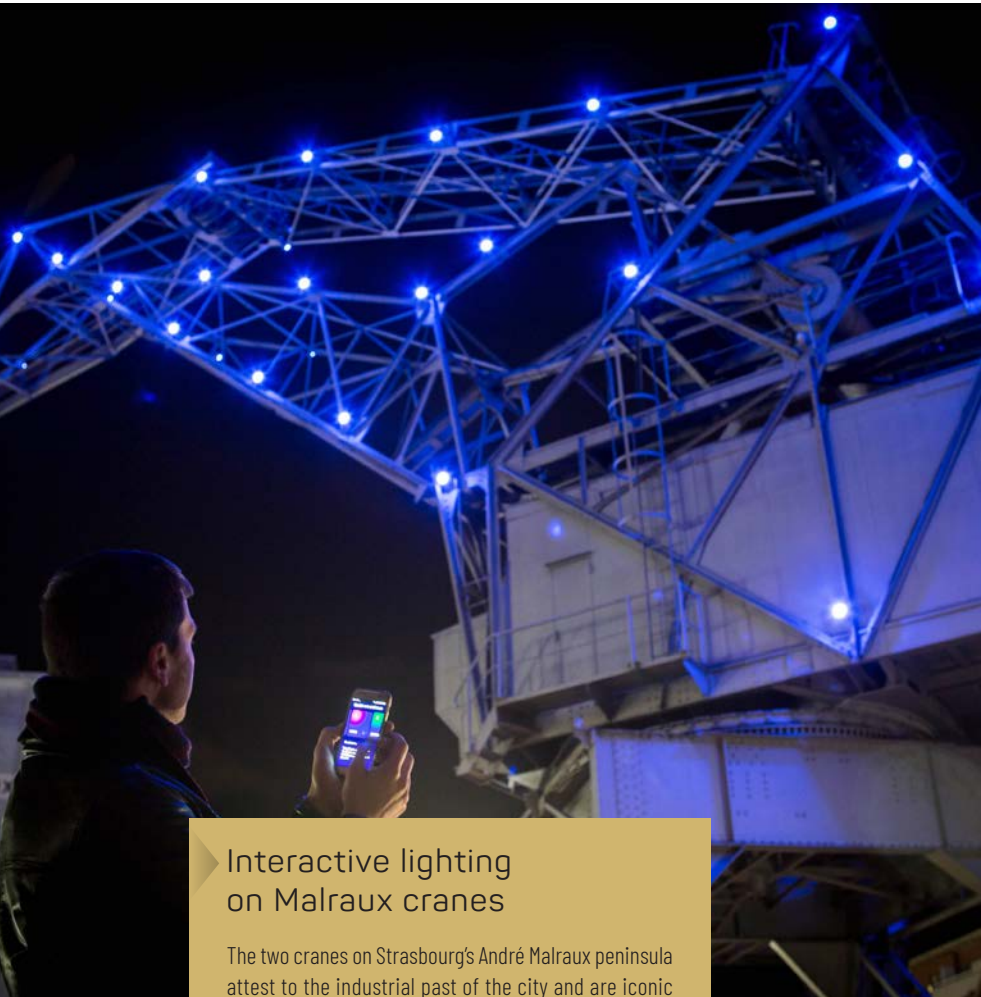
The second challenge is linked with the environment. Light pollution has been emerging as a pressing matter in recent years and in 2018, the national government issued a decree on the prevention, reduction and limitation of light pollution. In the future, we will need to design new lighting systems with less light output, refrain from using lights directed at the sky or building windows, and use a narrower light spectrum in order to limit the impact on the fauna and flora. This is why we signed the ANPCEN Charter. It is very strict and a real challenge for our city, but it protects the environment.

The third challenge is to make it clear that both private and public stakeholders must move in the same direction concerning the protection of the habitat and environment. It is not always the case at the moment. We have issued new regulations that prohibit the lighting of urban furniture at night such as bus and tram stops and luminous advertising signs. Shops and businesses must also contribute and switch off their shop window, sign and office lighting.

New lighting for a transition area: the Jean Robic tunnel

Connecting the city centre to the Cronenbourg district, the Jean Robic tunnel – a dark underpass which sees over 50 pedestrians and more than 400 bikes in an hour on a weeknight – got a new lighting scheme in 2019.

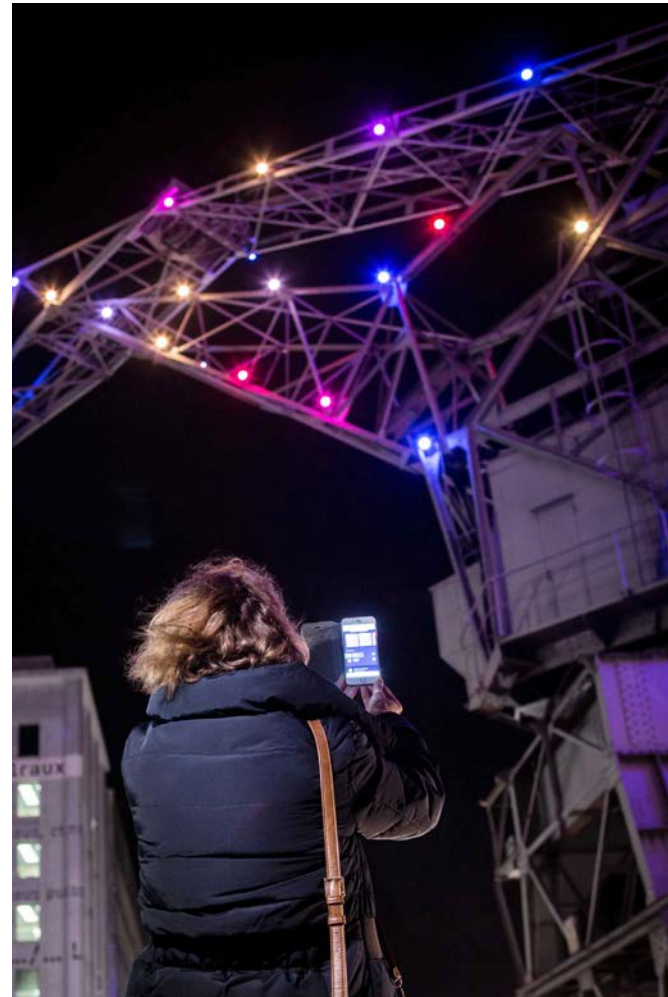
Lighting designer Jean-Baptiste Guerlesquin won the open competition with a project celebrating Strasbourg's role in the European Union. Rays of coloured light intermingle inside the tunnel to recreate the various colours of the flags of the 27 E.U members. Outside the passageway, a blue lighting atmosphere and small yellow lights delineating the path represent the E.U flag. The design aims to ignite users' imagination and give them a sense of safety and visual appeal. A minimalist "standby" mode with motion detection takes over until 5 am, and then white lines enliven the day mode.



Interactive lighting on Malraux cranes

The two cranes on Strasbourg's André Malraux peninsula attest to the industrial past of the city and are iconic industrial heritage sites. The cranes were restored in 2008, and in 2017 were illuminated with 120 projectors with colour-changing LEDs with variable intensity to highlight their architecture.

An innovative initiative within the City of Strasbourg seeking citizen interactivity for the Malraux cranes illumination led to the "Lumières" project: a new digital platform for citizens to interact with and choose dynamic colour scenarios to illuminate the Malraux cranes. People in the vicinity of the cranes can take control of the illuminations and choose amongst 20 original lighting scenarios via a dedicated QR code or the website <https://lumieres.strasbourg.eu>.



The fourth challenge is that all cities could end up having the same type of lighting with LEDs and slender fixtures, so we must be careful to preserve our originality and identity. Furthermore, we must avoid territorial divides and spread lighting throughout the local territory as well as ensure continuity between the different neighbourhoods.

Lastly, the fifth challenge is human. One of our priorities is to avoid becoming a dual city and in this sense, the public lighting policy is as important as the transport or housing policy.

You said one of the challenges is to better manage private lighting initiatives. Why is that an issue?

Private sources of lighting such as shop windows, projections, luminous signs, illuminated hotel facades, shops, office buildings as well as advertising billboards can disrupt the nightscape.

That said, there is no significant light clutter in Strasbourg and private lighting is in general consistent with the overall nightscape. There are a few exceptions: a hotel in the centre whose facade is illuminated with a deep-blue light, some shop windows and signs that are lit up all night, as well as increasing numbers of 24/7 advertising video screens.

What tools do you have to manage this?

In order to limit light pollution and clutter, we have our local regulation on advertising, the French regulation on the protection of urban buildings and landscape, and the December 2018 decree on the prevention, reduction and limitation of light nuisance.

Furthermore, we try to educate all the “light producers”, whether public or private. The municipality meets regularly with the Eurometropolis of Strasbourg. We are also in contact with the Chamber of Commerce and Industry to communicate about the restriction on the nighttime lighting of shop windows and luminous signs, which must be switched off in the middle of the night.

This also requires reaching out to the public. For example, many shopkeepers are not aware of these restrictions, but they understand them when we visit and explain. However, large private groups do not always comply; this is a point that needs improving.

Do you have data on what residents think of Strasbourg's nightscape?

For many residents, the most important is to have properly functioning public lighting in their street. When we were conducting lighting tests in one specific neighbourhood, we distributed questionnaires. The results showed that most citizens agree on the idea of fair lighting as well as on reducing lighting energy consumption at night and light nuisance. Furthermore, we know – through the success of a new online app that enables individuals to pilot illuminations on one site – that most residents are proud of the new illuminations.

We are in regular contact with neighbourhood councils, which is where many residents lodge complaints. We have conducted many nighttime visits, for example to see the areas that are perceived as dangerous by pedestrians and cyclists. Doing these explanatory walks with the citizens enables us to explain the work of the municipal departments and the city's policy on nighttime lighting. ■

The public lighting policy is as important as the transport or housing policy.

Night walks with citizens enable us to explain the work of the municipal departments and the city's policy on nighttime lighting.

CITY NIGHTSCAPES WITHIN THE EU ROCK PROJECT

This publication is produced within the framework of the European project ROCK (Regeneration and Optimisation of Cultural heritage in creative and Knowledge cities).

The ROCK project is a project funded by the European Commission as part of its Research and Innovation program (H2020) which brings together partners from various backgrounds (municipalities, universities, urban planning agencies, technical developers, international networks, etc.). The project focuses on the management of cultural heritage of cities as a lever for development, and enables the creation of different methods, tools and approaches for an inclusive and sustainable management of cultural heritage.

One of the subjects addressed at the instigation of the City of Lyon and the LUCI network concerns urban lighting as a lever for enhancing heritage and as a tool for urban development. Different activities were carried out within the framework of the project with the objectives of:

- Enhancing the quality of urban lighting and contributing to the recognition of permanent urban lighting as an essential element of heritage and of the urban landscape. This includes raising awareness – for citizens, technicians and political decision-makers – of the important role of light in urban planning;
- Rationalising a territory's issues and challenges to better understand processes, perceptions and new uses.
- Striving for governance that makes it possible to integrate the question of light clutter or "luminous cacophony" in the evolution of the lighting master plan.

This contemplation on the notion of the nightscape is part of a broader reflection in Lyon conducted since 2017, involving different departments of the municipality: the departments in charge of urban lighting, cultural affairs, urban planning, and local businesses. Today, the nightscape consists of more than just public light, it now includes private light. The municipality aims to explore the articulation between public light and private light, its integration in city lighting master plans, regulatory frameworks and preserving the quality of the urban nightscape. In this context, the City of Lyon carried out various actions and activities aimed at better understanding the uses of the city at night and the perception that citizens have of light. The city seeks to build a governance system of urban lighting that is adapted to the context, offering a balanced framework combining creativity, sobriety and quality in the public space.

The interviews in this publication, conducted with urban lighting professionals from some of the cities in the LUCI network, contribute to a better understanding of the different approaches to developing nightscapes worldwide and encourage a global conversation on the governance of city nightscapes.

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