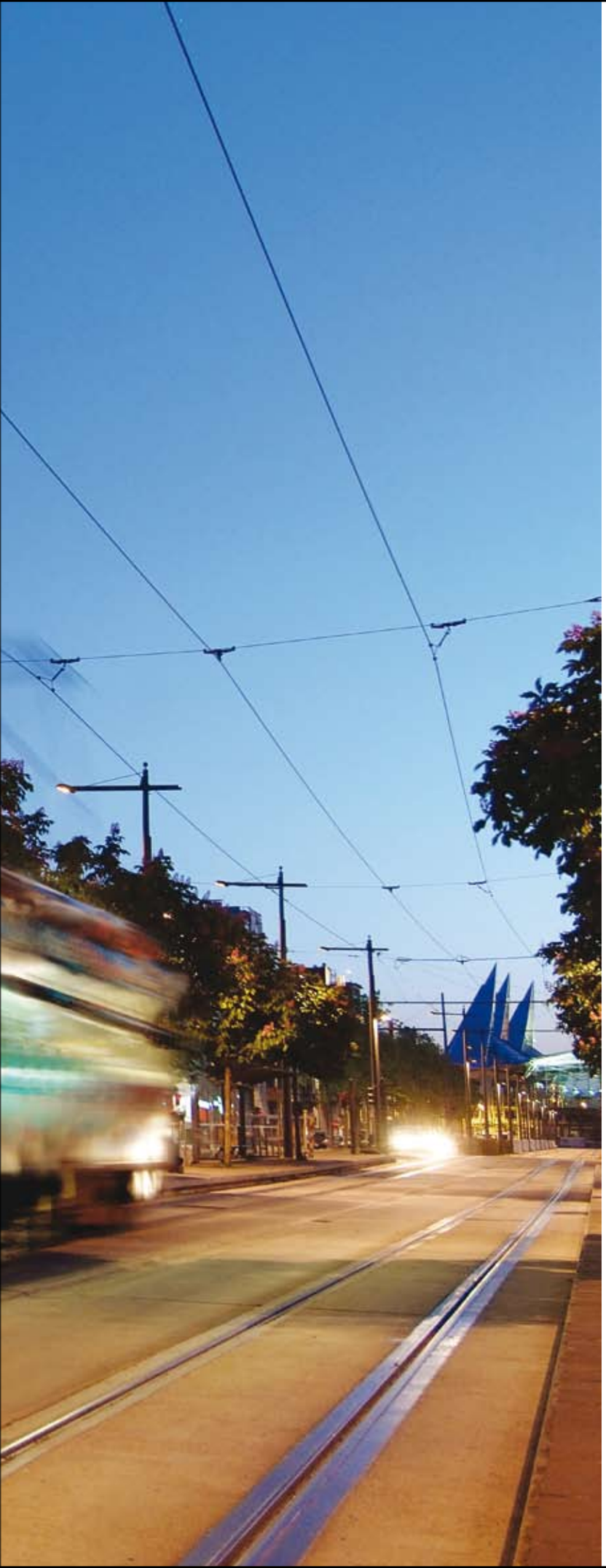


Lighting and mobility: Schréder, the city's partner

Solving mobility problems in cities is a major challenge for the 21st century. An improvement in mobility is clearly associated with the promotion of public transport among urban dwellers, but what should be done to ensure that these means of transport are used more by the public?

One of the key objectives is to make them more comfortable and safer, and lighting infrastructures play an essential role here.

It is clear that appropriate lighting creates a feeling of comfort and increases the feeling of safety among users. For years, Schréder has been designing high-performance lighting solutions adapted to the needs of public transport.

Enhancing the urban landscape

The creation of a new tramway or the modernisation of public transport is an opportunity to optimise the developments that influence the quality of life: creating atmosphere, maximising visual comfort, protecting against vandalism without compromising aesthetics, limiting the proliferation of lights so as not to disturb the urban environment, etc.

Schréder is a major player in the development of public spaces. Our lighting solutions contribute to enhancing the urban landscape and helping citizens to feel more at ease in the city. This is achieved by optimising the photometric performance of luminaires, reining in energy costs and facilitating the maintenance of installations.

For each case presented in this dossier, Schréder developed and implemented an adapted solution aimed at improving comfort, safety and aesthetics. This is in fact a double-sided objective: the development of public transport and the improvement of the urban landscape.

Belgium, Antwerp: lighting for greater mobility

Within the framework of Antwerp's mobility plan, Schréder was entrusted with designing a lighting solution with two objectives: to avoid an increase in the number of lighting columns on one hand, and to create different lighting for each zone on the other hand.

The versatility of the Neos floodlight provided the perfect answer to this specific demand, and the result was greater clarity in the city and increased safety for public transport users.

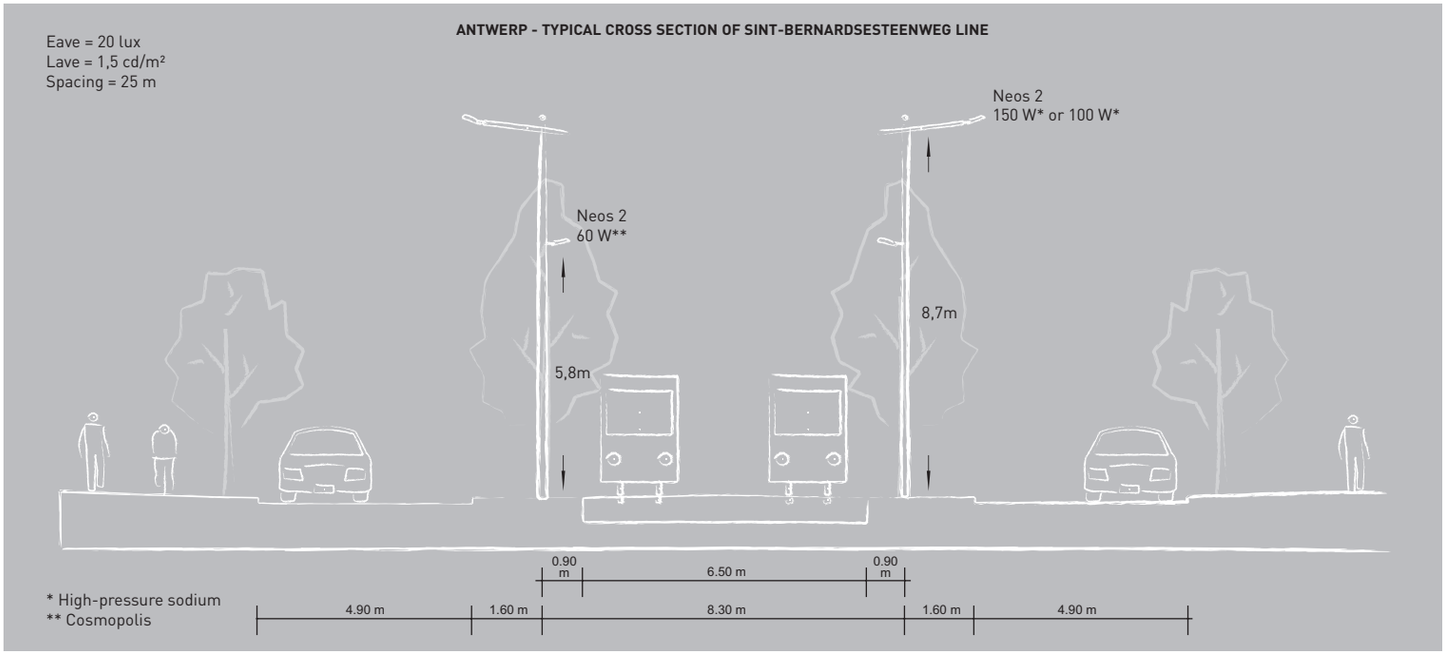
Improving mobility in the city

Through its mobility plan, the city of Antwerp wishes to improve the quality of life and safety in the urban environment. It also intends to improve the flow of traffic on the city's streets. The plan also includes several infrastructure projects to make the town and the harbour area more easily accessible. These projects are, among other things, based on the promotion of public transport among the population and, from this point of view, the tram and bus lanes have been widened. The first phase of the plan also provides for a new lighting system, which is already in operation.

Thanks to the use of different light sources, the Neos lights three areas of the road surface in a differentiated manner, which clearly benefits safety.

A better quality of life

Illuminating the bus and tram stops, as well as the paths leading to them, is a major part of the plan. *"Good lighting allows users to be guided in the city"*, explains Rik De Ruysser, an architect at the city of Antwerp. *"Lighting shows citizens the structure of the town. It helps to create a safe and pleasant environment. The choice of lighting installations has therefore been the subject of an in-depth study, which also took into account the aesthetic aspect."* The authorities in Antwerp wanted a lighting solution that would limit the number of lighting columns and allow different lighting for each type of traffic lane.



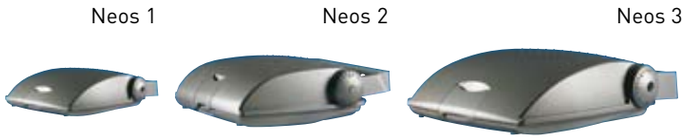
Neos floodlights were installed on the masts supporting the suspension for the catenaries, thereby limiting management and maintenance costs.

Electricity supply and lighting on the same lighting columns

At the end of this study, the city of Antwerp chose Schréder's solution, which met the city's various requirements both from an aesthetic and functional point of view. The lighting columns carrying the power supply for the trams were equipped with Neos floodlights. This made it possible to limit the number of lighting columns and therefore preserve the aesthetic value of the urban landscape. The management and maintenance costs are also limited as a result. Furthermore, several floodlights can be installed on the same post depending on the lighting requirements for the roads, stops, lanes and sidewalks.

Differentiating areas by varying luminous intensity

The wide choice of reflectors and light sources available for the Neos floodlights made it possible to provide the appropriate answer for the specific needs of the project. The floodlights can thus be equipped with several types of lamp with various power levels to differentiate the zones. A 150 W high pressure sodium source is used to light roads, while the new 60 W Cosmopolis lamps light the tram and bus lanes. As for the sidewalks, they are lit by Neos floodlights equipped with 140 W Cosmopolis lamps. The contrast between the various areas of the road surface is therefore reinforced. This improved clarity reinforces the safety for all road users, i.e. pedestrians, cyclists, public transport users and car drivers.



Available in three sizes, the Neos range of floodlights ensures a perfect control of light for a wide range of applications.

The versatility of the Neos floodlight has allowed differentiated lighting to be implemented for each area of use.

Appropriate lighting for each type of use

Corneel Verbeemen, project manager for the Antwerp mobility plan in the research consultancy TV SAM, gives us his vision of lighting in the city.

What role can lighting play in a mobility plan?
As regards mobility, the main role of lighting is to create paths that are clearly visible to the various road users. Appropriate lighting also brightens up the urban landscape. It makes the daily environment of the city's inhabitants more enjoyable.

What was the major challenge within the framework of this project?
It was necessary to provide a good contrast between lighting for the road and the bicycle paths compared with the lighting for the tram and bus lanes. With the help of Schréder and the other partners involved, we were able to find an ideal solution based on a single type of luminaire. Moreover, I would like to point out Schréder's excellent technical support, as well as the good level of cooperation between the various players involved in the project.

France, Marseille: trams and light to regenerate the Canebière and the city centre

Reorganising public transport, modernising it, and educating the inhabitants of Marseille on how to share urban space; these are the objectives of the Urban Transport Plan initiated by the city of Marseille.

This is a plan that also recognises the importance of quality lighting to successfully regenerate the city centre. Absent from the city centre for several decades, the tramway has made a comeback in Marseille. The city has decided to modernise line 68, to create new lines as well as widening the sidewalks and promoting "soft" transport.

In an effort to give the streets of Marseille their own identity, the city asked for two complete ranges of luminaires to be designed. The objective was lighting the roads, the tramway and the surrounding areas.

Before work began, strict criteria were defined regarding aesthetics and design, as well as management, efficiency, maximised service life and lighting performance. As soon as the contracts were allocated, Comatelec, a member of Schréder Group GIE in France, worked in close collaboration with Charles Bové from the architects' firm STOA and the designer Marc Aurel from M.A STUDIO.

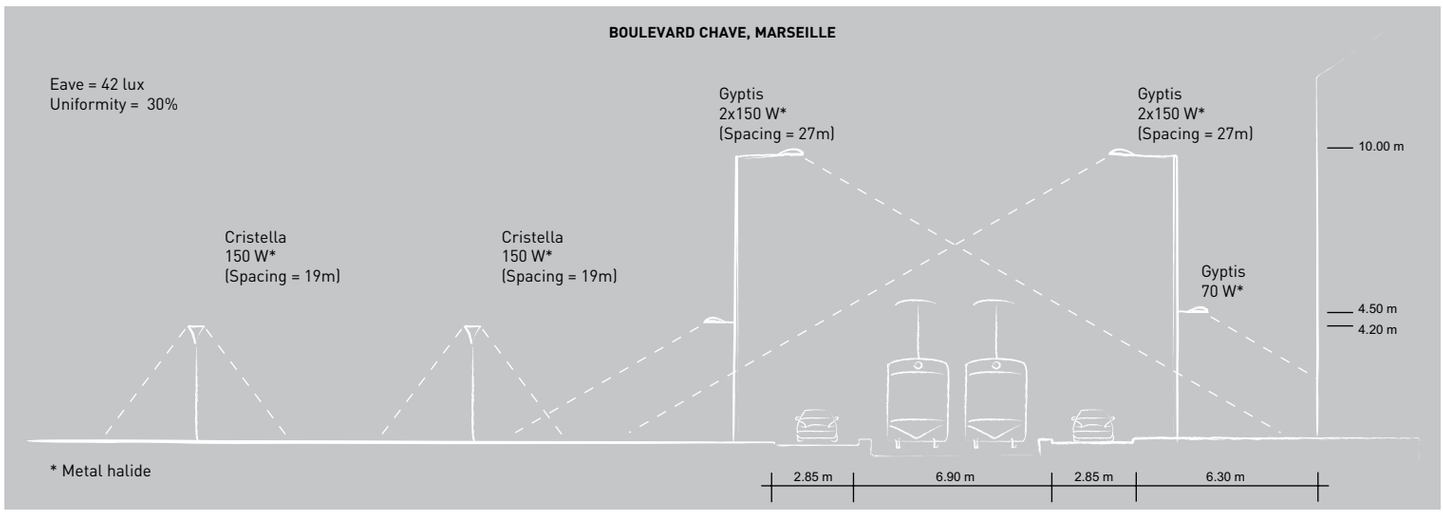
The result is very high-quality lighting that enhances public spaces, respects the environment and preserves the existing daytime and night-time landscapes.

We met Mr Jean-Marie Audibert, Director of Lighting for Marseille, who spoke to us about the project.

What triggered the city's new lighting plan?
The return of the tramway is part of an overriding strategy to relieve traffic congestion in the city centre, but it especially aims to regenerate the city centre and the Canebière, the famous main road in Marseille. We have taken advantage of these major infrastructure works to remodel the city's public lighting.

MARSEILLE PROVENCE METROPOLE COMMUNAUTE URBAINE

Sponsor: *Communauté Urbaine Marseille Provence Métropole and Ville de Marseille/Direction de l'Eclairage*
Design: *Marc Aurel/ M.A STUDIO (Cristella), Charles Bové/STOA (Gyptis)*
Realisation: *Comatelec - member of Schréder Group GIE*
Installation: *Cegelec, Forclum, SNEF*



Lighting by night, playing with the sunlight by day, the Cristella embellishes the town.

For the city of Marseille, Schréder has developed two new ranges of poles and luminaires in close collaboration with the designers.

What were your main objectives?
Through its ability to create atmosphere, lighting plays an essential role in giving cities a new boost. Besides its functional role, we also wanted lighting that would enhance our sites and create a warm atmosphere. Since the public lighting infrastructure occupies the urban space, the authorities decided on the development of two ranges of poles and luminaires that would represent the identity of Marseille.

What were the main criteria for your lighting plan?
Besides very precise objectives in terms of performance such as overall lighting, efficiency, performance over time and manageability, we were looking for quality in terms of colour rendition and light distribution. Furthermore, we wanted to limit visual pollution by installing some of the luminaires on the masts that supply the tramway with electricity.

What are the original characteristics of the project?
As regards the two luminaires created within the framework of this project, I would emphasise the fact that a mini reflector was used (the miniR®) *and the new light sources for the Gyptis, designed for lighting roads by the firm STOA.*

As for the Cristella, designed by Marc Aurel, it is a concept that aims to control energy and light more efficiently. It offers an interesting aspect during the day when the sunlight plays with the glass prisms. At night, it demonstrates its excellent photometric performance, regardless of the configuration. It is part of a work of art that the people of Marseille are already enjoying.

What struck you about working with Schréder Group?
I found a company that paid close attention to the project's needs. The company never attempted to alter the designer's project for reasons of industrial profitability or the like. To sum up, excellent teamwork and a result that meets our expectations.

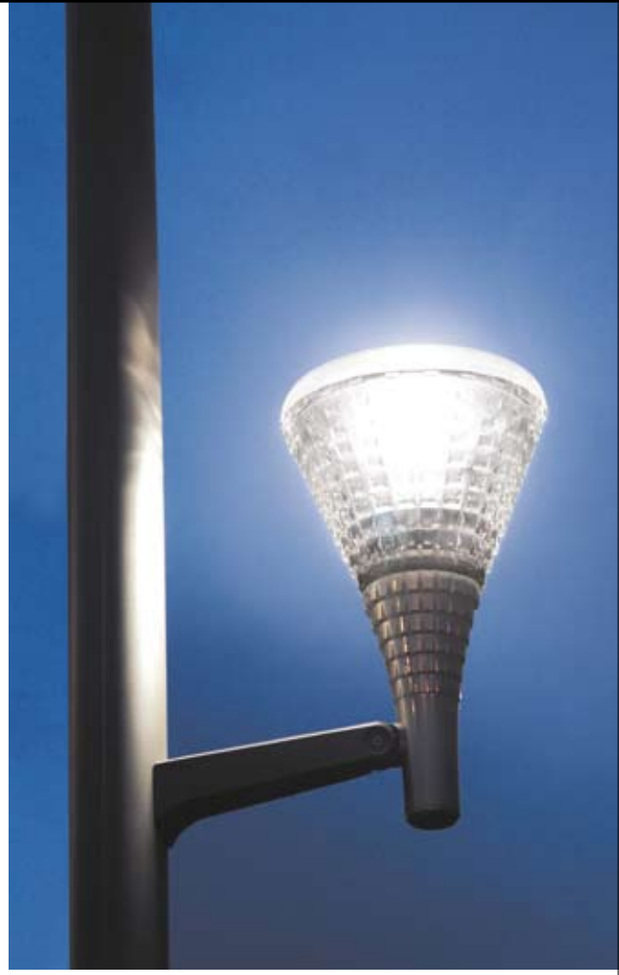
For part of the tramway line, the Gyptis were installed on catenary masts.

Successful interaction between designer and manufacturer

The Gyptis luminaire installed along the roads was designed by the architects' firm STOA, which specialises in urban development projects. Charles Bové, the designer, shares his thoughts with us.

What is the role of lighting in giving cities a new boost?
Light is a material of the 21st century that allows you to give a kind of poetic value to a space. Lighting shapes atmosphere, it reinforces, raises awareness and embellishes the city. It was from this perspective that the authorities in Marseille asked us to design a luminaire and pole ensemble for road lighting.

What struck you about working with the manufacturer?
We worked with the intention of mutually increasing our knowledge. For me, close collaboration with the manufacturer is a better way of designing things. And this seems to me to have been a key element in the success of this project.



The Cristella's designers chose noble materials.

The Gyptis is equipped with the miniR® reflector, which is characterised by its small size and high-level photometric performance.

The Cristella helps in creating luminous atmospheres.

Lighting by night, playing with the sunlight by day

The Cristella luminaire was designed by Marc Aurel's design firm, M.A STUDIO. Marc speaks to us about the particularities of the Cristella and how it was created.

What are the particularities of the Cristella luminaire?
Through its glass prismatic bowl, the Cristella fully contributes to creating luminous atmospheres in cities while providing an excellent level of photometric performance. At night, its colour rendition is exceptional and by day, its crystal surface reflects the rays of sunlight in multiple directions. Hence, it embellishes the city both by day and by night. The Cristella is available in numerous configurations and can be installed at various heights: at the top of a lighting column with indirect symmetrical and asymmetrical lighting, indirect rear lateral lighting or suspended with a roadway optical unit.

Can you tell us about the design phase?
Schréder was given the specifications and requirements in terms of lighting. We worked together on the design of the luminaire by basing ourselves on these technical parameters. Special care had to be taken to ensure that the aesthetic value of the luminaire did not hinder its easy maintenance. The highly proactive collaboration on both sides allowed us to reach a more than satisfactory result.

The Cristella is available in numerous configurations: one or two luminaires fitted on a pole, one or two luminaires suspended on a single or double bracket, a luminaire suspended on a single bracket and fitted on a rear bracket.

Germany, Leipzig: lighting must attract tram users

With the Citea range, Schréder adds a timeless design to a range of high performance photometric solutions.

Making public transport more attractive and improving mobility; such were the objectives for the modernisation of the tramway network in Leipzig. Convinced that lighting encourages this kind of mobility, the town entrusted the study and realisation of this project to A+G Schréder, the Schréder Group's German company.

The challenge? To light the various urban areas concerned using a unique range of luminaires allowing multiple configurations, all while giving the urban landscape aesthetic coherence.

Reassuring tram users

The tramway network is an essential component of mobility in Leipzig. The city is counting on a modern and efficient network to appear more attractive to inhabitants and tourists. A big part of the budget for the modernisation of the public transport network was dedicated to lighting. *"Good illumination in the city has a positive impact on mobility"*, says Lars Loebner, Manager for the Development of Public Spaces in Leipzig. *"Lighting at stops and on roads strongly influences the image customers have of public transport. Lighting must allow travellers to feel safe when they arrive on the platform."*

Aesthetic and adaptable luminaires

"The lighting system had to convey the image of safe, modern and efficient trams", Lars Loebner adds. *"We also wanted it to contribute to the improvement of the aesthetic value of urban spaces. From this point of view, we wanted to install an original lighting column design while taking care to limit the quantity needed. Furthermore, owing to budgetary concerns, we were looking for an existing type of luminaire, which nevertheless had to suit a variety of applications and offer a wide choice of lighting intensity."*

Three sizes, four reflectors and different lighting heights

Leipzig entrusted Schréder with the project, which was able to meet all the requirements through the Citea luminaire. The range of Citea luminaires made it possible to cover all facets of the project. The Citea luminaire is available in three sizes (Mini, Midi and Maxi) which allows for numerous combinations of luminaires on the same lighting column. This means it can be used for lighting a tram stop as well as an intersection, for instance.

The Citea can be fitted with all types of lamp that are usually used in an urban environment and for power levels ranging from 70 to 400 W. Its efficiency means that installations at significant heights may be envisaged as well as a reduction in the number of lighting columns installed.

The efficiency of Citea allows the number of lighting columns to be reduced.

CITEA

The Citea is available in three sizes (Mini, Midi, Maxi) according to the desired power level.

Photometric performance and saving energy

Lars Loebner participated in the selection of a supplier for the tramway lighting project. He tells us about the elements behind his choice in favour of Schréder.

What were your main criteria in the selection of a supplier?
Besides the technical and economic parameters, we were especially looking for a supplier capable of offering an attractive and timeless design. The project foresees a 30-year lifetime for the luminaires. It was therefore important that it was a modern design, and especially one that would endure. It was also necessary that the luminaire could be equipped with future light sources. Schréder was able to meet our various demands, with a philosophy of "everything is possible".

What were the critical elements in terms of performance?
The solution proposed, and especially its technology in terms of reflectors, provides exceptional photometric performance. Furthermore, its design means that the frequency of maintenance is reduced. In addition, the low energy consumption of Citea luminaires is particularly nice. The incorporation of electronic ballasts and latest generation lamps has allowed us to significantly reduce electricity consumption.

"The Citea combines flexibility and photometric performance. All in a modern and elegant design that gives character to the city."

Lars Loebner

The Citea adds a timeless design to high performance photometric solutions.

Portugal, Porto:
a new metro system to improve mobility

For zones with heavy traffic, such as the entrance to Trindade Station, the Onyx was selected.

Improve mobility and the quality of life for its inhabitants while reducing pollution are the main goals of the Porto public transport system. Since its inauguration in 2002, the Metro do Porto network has been steadily expanding, with Schréder joining the network as the main lighting supplier.

Since the metro project started, more than 70km of network, including 8km of tunnels, has been developed to serve over one million citizens in Portugal's second largest city. With the clear objective of changing the citizens' habits, the metro system was designed with the passengers and their commuting needs in mind.

The system is based on 3 principles.

- Functionality: the network had to reduce traffic by providing an efficient user-friendly service. Time spent commuting has lessened thanks to exclusive tracks for the trams which also have priority at all times over other vehicles. It is 100% accessible to wheel-chair and disabled people. Most of the steps and platforms have guide lines for blind people

- Accessibility: the network has 5 independent lines, covering 6 municipalities within the metropolitan Porto area. Tickets can be bought from machines and car parks are low cost.

- Easy maintenance: most of the stations have been built with steel and glass to convey cleanness and tranquillity.
From the beginning, Metro do Porto's efforts have been marked by the excellent integration of its equipment into their surroundings; a modern design that goes hand in hand with very strict technical and financial parameters without forgetting the safety and comfort of its users.

Aesthetic and functional lighting

Within such a framework, the selection of Schréder products for some of its latest track extensions and passenger stations makes perfect sense. Aesthetical, technical, and functional issues, together with cost-effectiveness, were key selection criteria.
Passenger stations such as Parque Maia Station and Boticas are fitted with elegant Neos floodlights for direct as well as indirect lighting, thus achieving an excellent level of illumination and uniformity with maximum visual comfort in a very cost-effective manner. The Aura, a luminaire with an elegant design not only lights but improves the aesthetics in the shopping area close to Maia station.

By employing white light together with designer luminaires, it is possible to radically improve the image of a station. Locations become much more pleasant and the feeling of security is greatly enhanced. This strongly contributes to the general public's willingness to commute using public transport.

The Neos range provides an optimal balance for the key selection criteria and became a reference standard for the metro network.

The Aura, designed by Álvaro Siza, was chosen to minimise the visual impact on the infrastructures in the Maia shopping area.