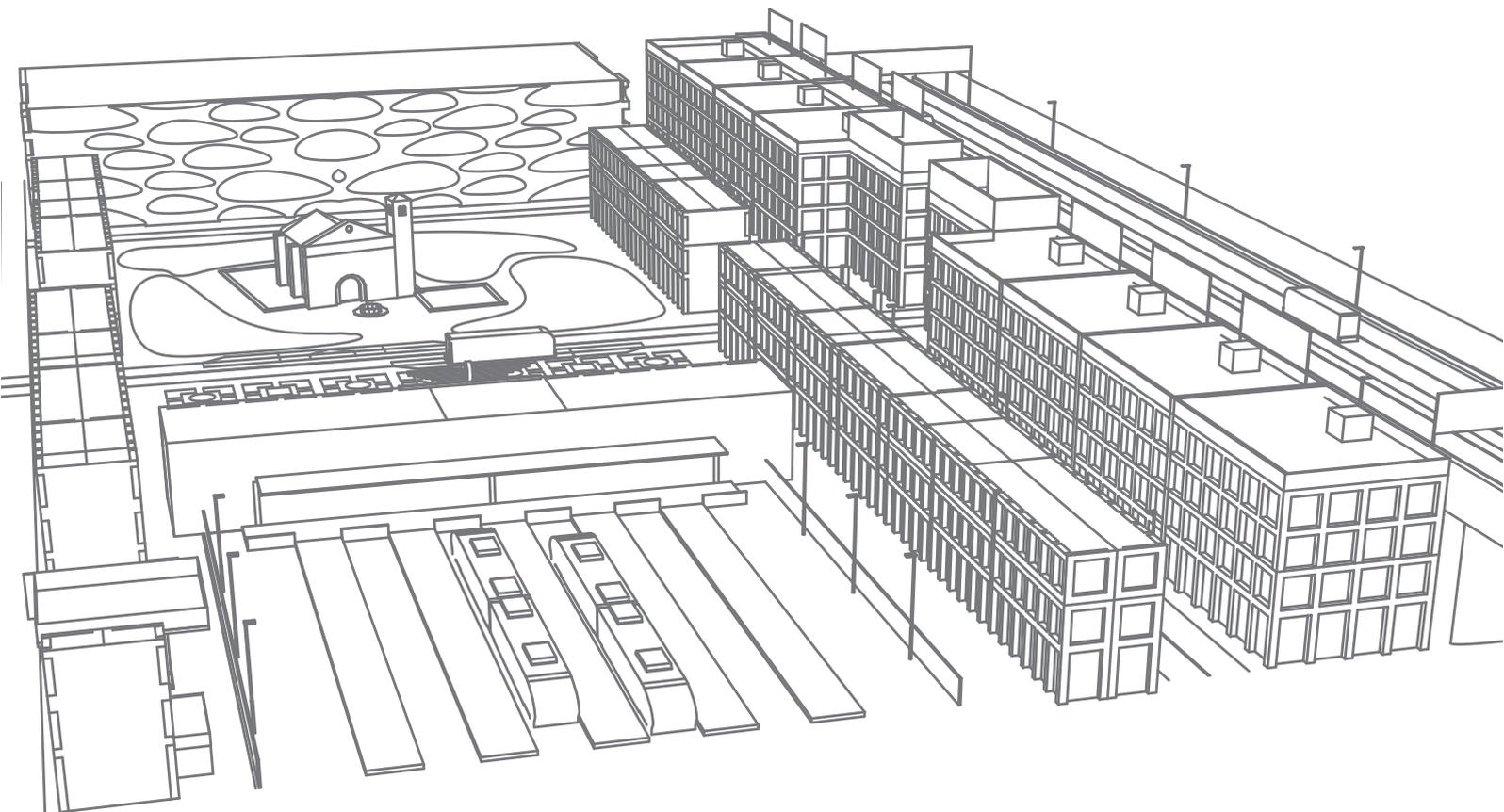


HIGHWAY MAIN ROAD PEDESTRIAN CROSSING PETROL STATION RAILWAY STATION PARK ARCHITAINMENT



interactive model city

PLAYCITY

outdoor lighting solutions

SLE[®]
smart lighting engineering

PUBLIC LIGHTING & SAFETY

Advancements in technology allow us to introduce a new way of lighting for our public spaces. Illumination that combines the properties of daylight with energy efficiency.

Modern public lighting systems use high quality white light that is perceived brighter and more natural than the light emitted by conventional street lighting. As a consequence, public lighting becomes visually much more effective, thus safer for inhabitants.



The focus of modern street lighting is on reducing the occurrence of accidents and potential risks. White light enables higher levels of peripheral visual performance, helping drivers to notice roadside movement sooner and from a greater distance. This is achieved by the good colour rendition and better visual acuity, what is determined by brightness level, lighting uniformity and distribution, contrast and glare. It is important that public lighting is designed to illuminate areas as uniformly as possible in order to minimise the need of adapting our eyes to changes in brightness. It is also vital to maintain sufficient levels of contrast between objects and their background to aid perception and recognition.



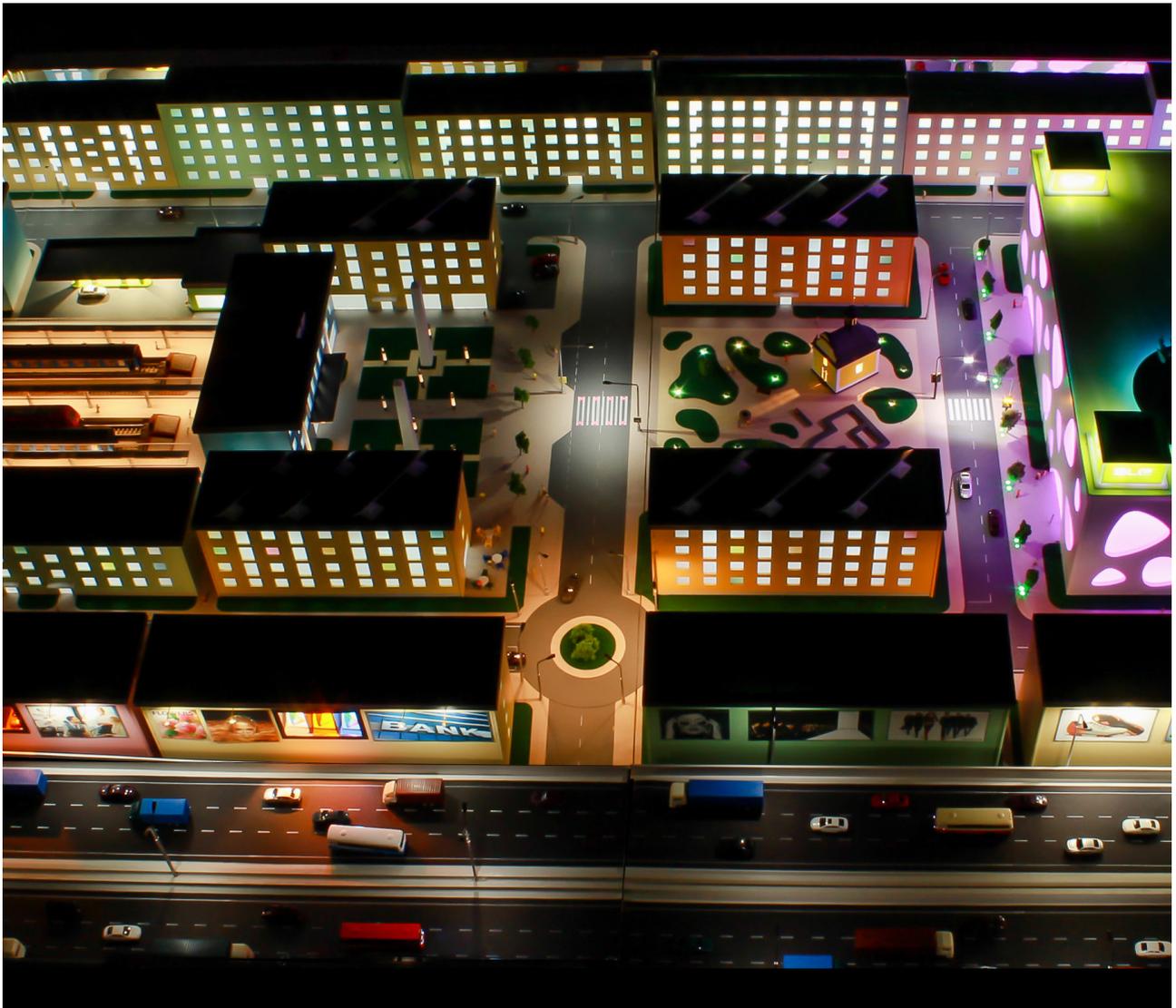


To visualize all the possibilities within the field of modern outdoor lighting, we developed the PlayCity concept:

a mobile model city that is interactive and implies various outdoor lighting solutions by SLE. Within this one small, intuitively controlled exhibit, all the lighting possibilities offered by the latest technologies are illustrated to great effect. Discover the transformation of public lighting directly by personal experience.



Read further and take a brief glimpse into the many ways lighting can make a city livable, safe and efficient regarding its roads, crossings, petrol stations, railway stations and highways.



MOCK-UP PLAYCITY

SLE created the PlayCity model to easily showcase the latest outdoor lighting solutions. The mobile mock-up of public lighting is interactive, displays different lighting scenes, while introducing the latest technology. PlayCity is available for our partners to exhibit solutions. **Contact us for more information!**

HIGHWAY

MAIN ROAD

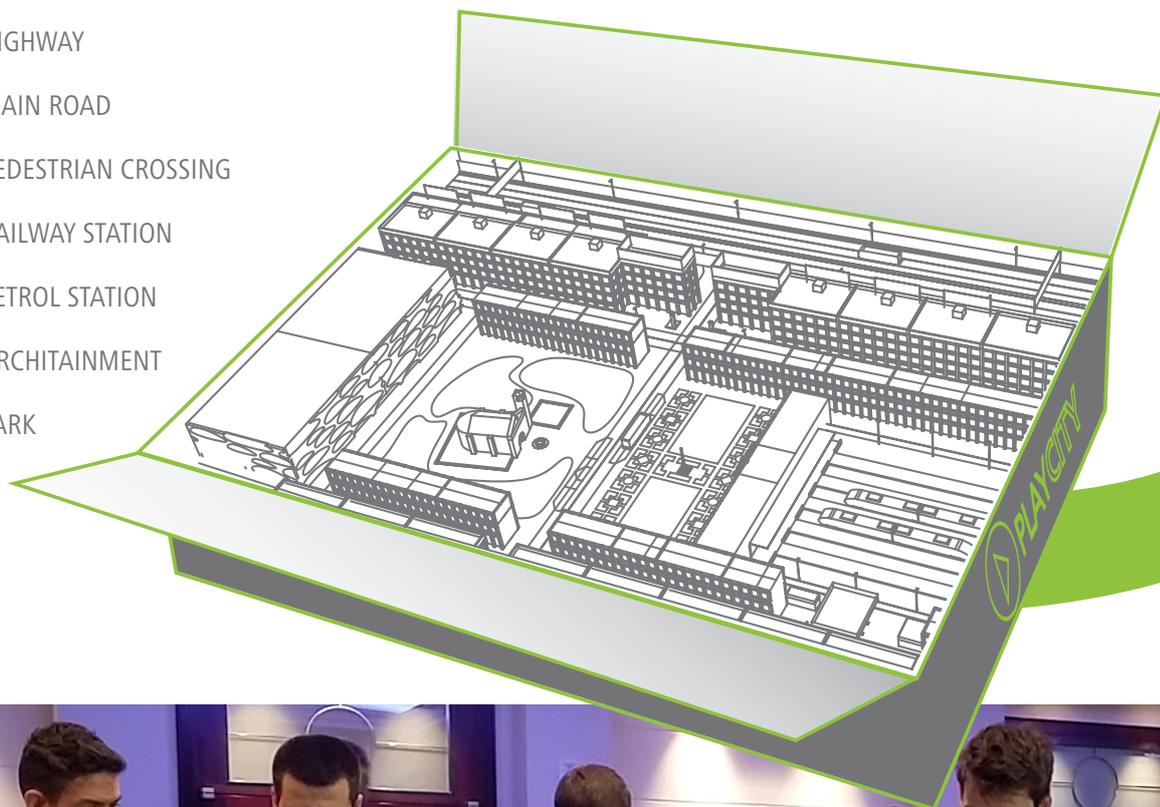
PEDESTRIAN CROSSING

RAILWAY STATION

PETROL STATION

ARCHITAINMENT

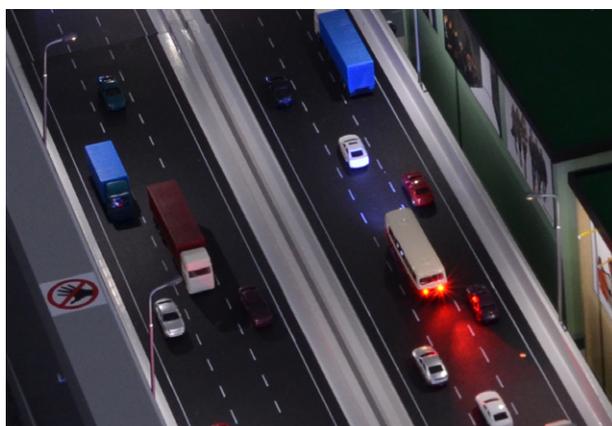
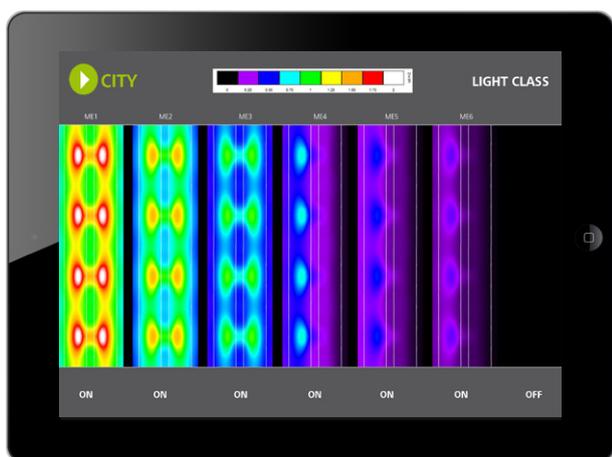
PARK





INTERACTIVE ENVIRONMENTS

Discover each part of the city under different lighting scenes. During the night the lighting system creates the identity of the city, in addition to providing security and safety for the road traffic and pedestrians.



CLASS ROADS

The ME classes are defining road lighting requirements, intended for streets/roads with drivers of motorized vehicles, and in some countries also for residential roads, allowing medium to high driving speeds. The requirements of the lighting classes reflect the category of the road user in question or the type of road area and differentiate lighting parameters according to visual needs.

Thus the ME classes are based on the road surface luminance, while the CE, S and A classes are based on different priorities of the illumination of the road area.

The luminaires themselves add up to the design according to their distribution curves. Modern street lighting applies light only where needed, with cut off or full cut off light distribution, therefore saves energy and reduces light pollution.



iPad control with
SLE Graphical User Interface

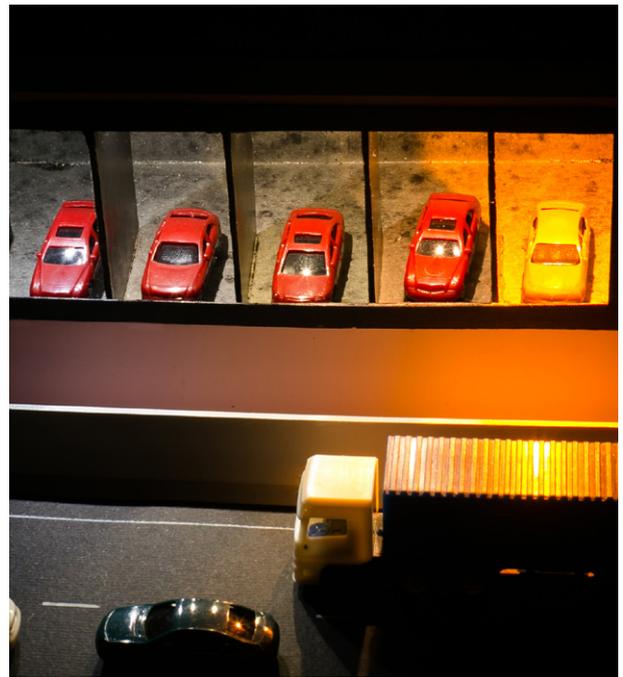




WHITE LIGHT AND WARM WHITE FOR STREET LIGHTING

White light is perceived as brighter as and more natural than the light emitted by conventional light sources. White light enables higher levels of peripheral visual acuity, helping drivers to notice roadside movement sooner and from a greater distance. This gives them precious extra time to stop if a child, pedestrian, cyclist or animal would unexpectedly cross their path, thus reducing the incidence of accidents and fatalities.

Warm white light produced by high-pressure sodium lamps is not considered to be used in new lighting solutions, as the yellow/orange light makes it difficult to distinguish colours, providing poor colour rendering.



COLOUR TEMPERATURE AND TRADITIONAL LIGHT SOURCES

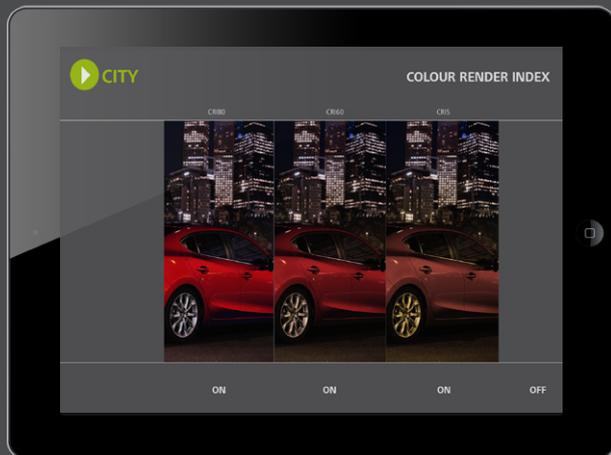
The colour appearance is a characteristic of visible light. Colour temperatures over 5,000K are called cool colors (white) approximate the colour of light outdoors on a bright, sunny day. Lower color temperatures (2,700–3,000 K) are called warm colors (yellowish white through red).



COMPARISON OF LEDs AND TRADITIONAL LIGHT SOURCES

White light emitted by LEDs provides superior colour rendition, which means that it improves the clarity of images recorded by CCTV cameras, helping in the identification of people and vehicles, as well as providing reliable evidence in the case of recorded criminal activity.

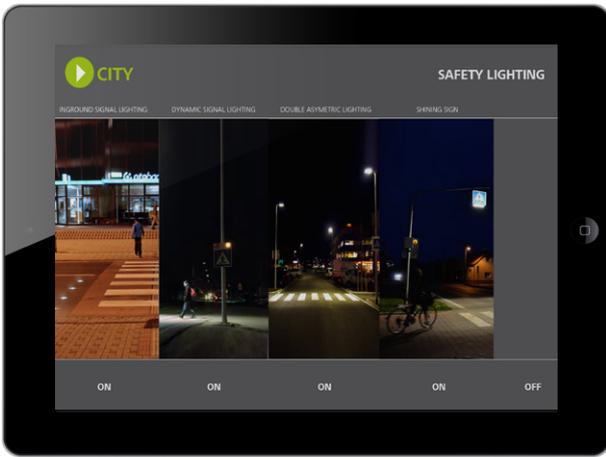
There are two types of the traditional street light sources: high-pressure (HPS) and low-pressure (LPS) sodium vapor lamps. Of the two, HPS is the more-commonly used type. Low Pressure Sodium lights are even more efficient than HPS, but produce only a single wavelength of yellow light, resulting in a Color Rendering Index of zero, meaning that colours cannot be differentiated under it (see picture on bottom left). These lights do not find favor with police departments as it is difficult to determine the colour of clothes and vehicles of suspects from eye witness accounts in the event of a crime.



PUBLIC LIGHTING FOR SQUARES, PARKS, PATHS AND SIGNS

Well designed public lighting, next to its high efficiency, supports the economy of communities and cities by attracting visitors to all matter of outdoor activities such as markets, concerts and cultural events. It is therefore important that key buildings, monuments and parks are well illuminated to be appealing to those passing through.

Higher levels of illumination should always be used for paths, signs, building facades and landscape features. The choice of light colour and the ability of a light source to render colours well should be key factors in a lighting designer's concept.



PEDESTRIAN CROSSINGS CREATING CONTRAST AND SIGNALIZING THE CROSSING

In traffic lighting pedestrian crossings require special consideration. With sufficiently high road surface luminance level, it is possible to position the normal road lighting luminaires so as to provide good negative contrast, where the pedestrian is visible as a dark silhouette against a bright background.

The other solution is to implement local lighting for the pedestrian crossing with additional luminaires. This way the pedestrians are directly illuminated at the crossing, thus easily noticed by drivers of motorized vehicles and cyclists.

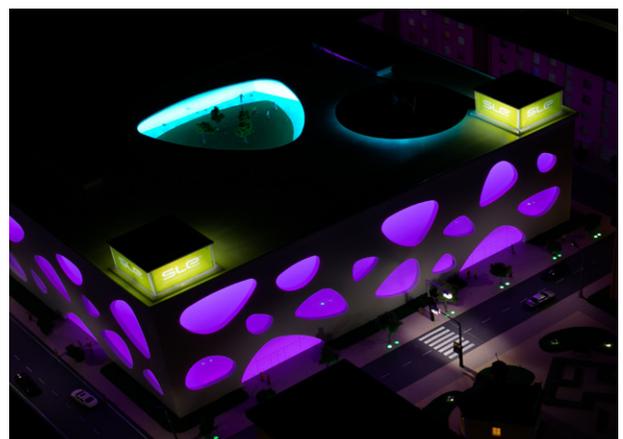
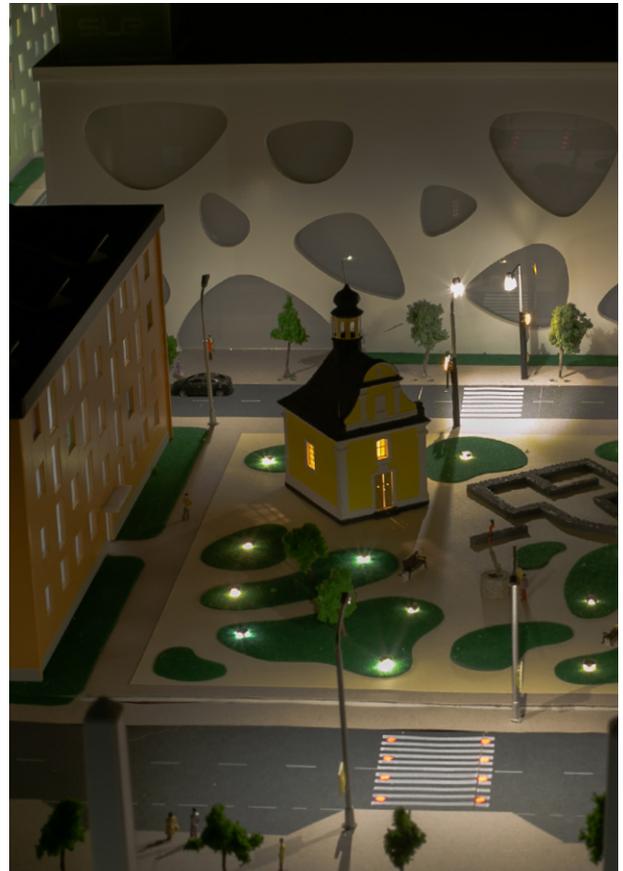
The type of the additional luminaires and their position and orientation relative to the crossing area should be selected with the aim to achieve positive contrast, but not to cause undue glare to drivers.

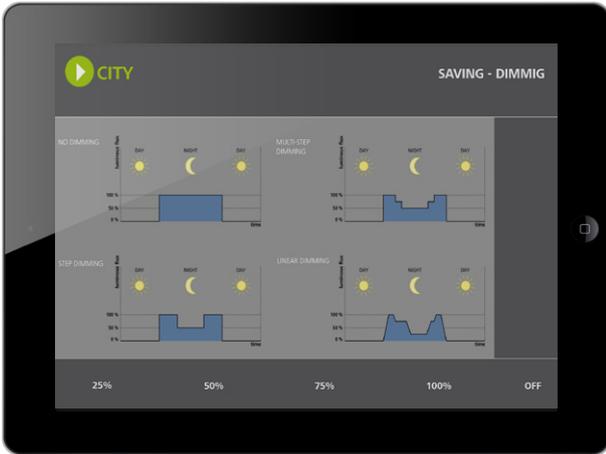
For a two-way road, a luminaire is mounted before the crossing in each direction of the traffic flow (see picture below). Luminaires with asymmetric light output are suitable, causing less glare to drivers.

ARCHITECTURAL LIGHTING FOR BUILDING FACADES, MONUMENTS AND LANDSCAPE FEATURES

Lighting up the entrances, archways, cornices, columns on a facade allows calling attention to the uniqueness of a building, giving a new ambience to the area. It enables inhabitants and visitors to explore a different view over the city, making the experience of walking at night a pleasure.

Illumination of trees has become a popular sight in many cities even outside the holiday season, creating a positive atmosphere, adding more attention to parks and public spaces. Lighted sculptures, fountains, bridges, towers, and other major places of interest in a particular location define the character of a city, adding iconic images and recognition to it.

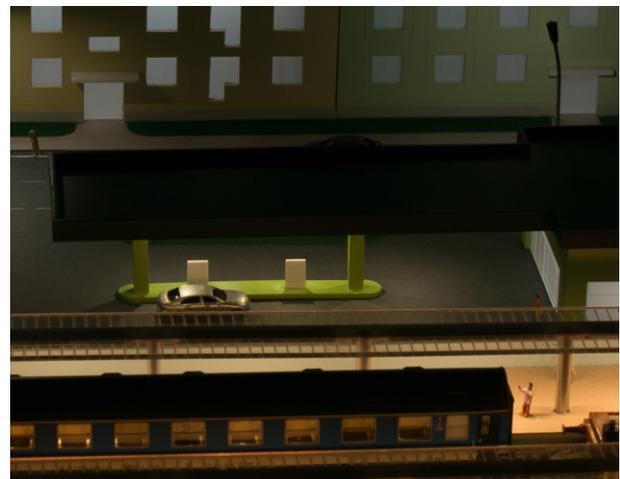
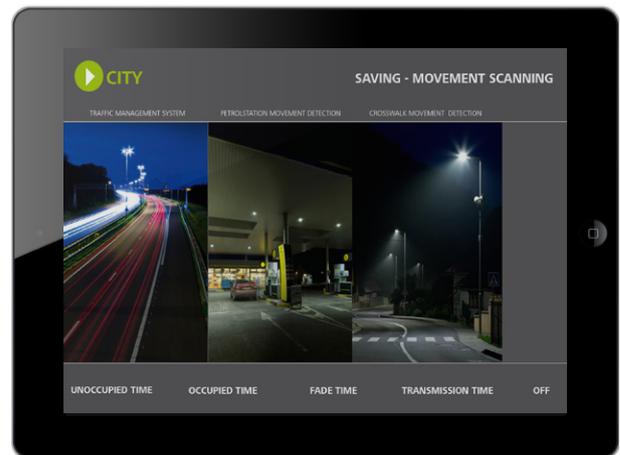




LMS FOR PETROL STATION

Petrol stations provide a complex mix of services, hence they need an effective lighting solution that fits various activities from carrying out the refill to relaxation in the cafeteria.

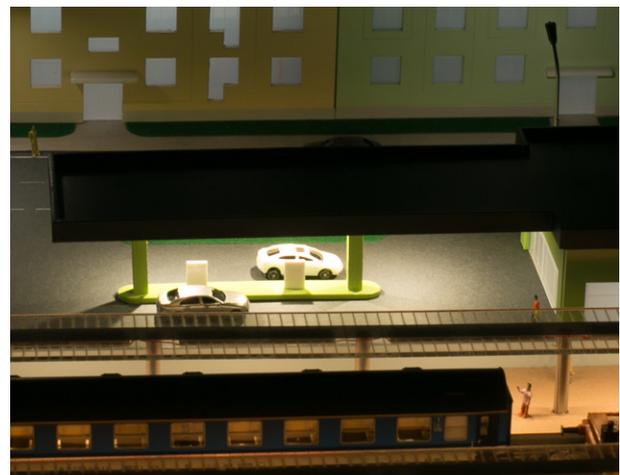
Modern lighting control techniques have opened up a huge potential for energy saving in petrol stations as the under-canopy area is not fully illuminated anymore when it is not in use. A comfortable safety illumination level of 50% is suitable for use at all times and only needs to be increased to 100% in the outdoor filling space when a vehicle approaches.



LMS FOR TRAIN STATION

Public transport is a service for people, therefore safety and good visibility is a must at stations and stops. Passengers feel more secure if the railway station is well-lit when they expect the train, get on and off and at leaving the station.

SLE provides a new station lighting system which automatically dims platform lights down to 40% during quiet periods. The system also adjusts the level of light according to the ambient lighting conditions, therefore it uses less energy and has higher efficiency.



CITYOWL CENTRALISED STREET LIGHTING CONTROL AND MONITORING SYSTEM

Proper management and maintenance of a lighting solution can be quite complex, time-consuming and expensive. For this reason, we developed the innovative CityOwl. A state of art solution for street lighting control and management that will allow you to save money and increase your comfort.

POWERLINE COMMUNICATION

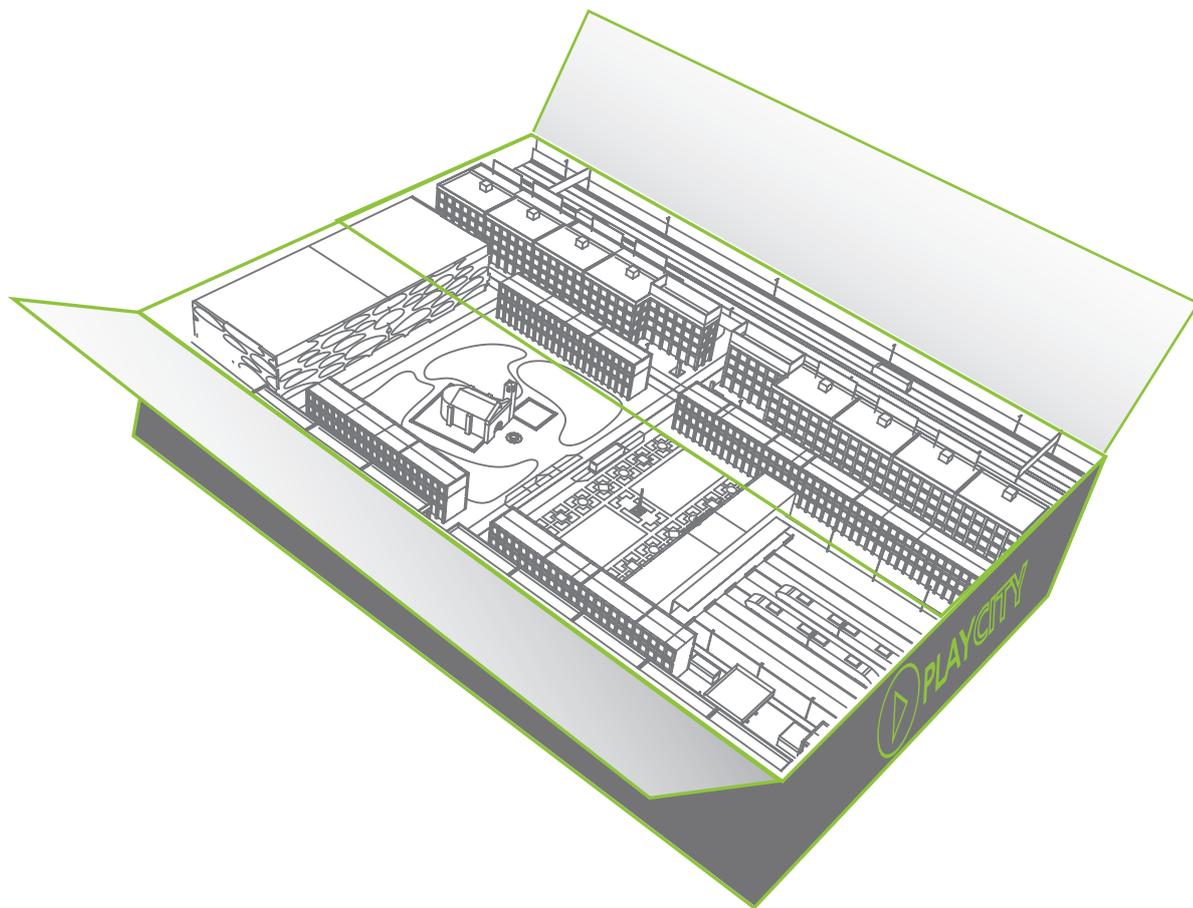
Control is facilitated along the existing power supply infrastructure. This allows all communication to be done without the need for additional control lines or cabling, thereby minimizing reconstruction costs. The solution is ideal especially for older installations with a limited number of phases. Communication is facilitated using special transmitters located in the distribution boxes and receivers located within the luminaires, which use a signal modulated to pass along the power supply lines without interference to stable supply.



RF COMMUNICATION

All control commands between the central control unit and the luminaire are sent using RF communication. This allows minimizing the cost of installation, plus lighting systems can be reconstructed without need for replacement or addition of wiring infrastructures nor investment in control line cabling. It also means that no fees need to be paid for the transferred data, which further reduces operational costs.





interactive model city - outdoor lighting solutions for our partners

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