

## L und M GmbH .... Spectacular lighting for server room

In May 2010, the foundation stone was laid for a new building according to the latest ecological standards and adapted to the lean work processes that L und M pursues. A special requirement to be met by the Kiel architect firm HKW Architekten was to put the core server of the company in the limelight through inventive and innovative lighting.

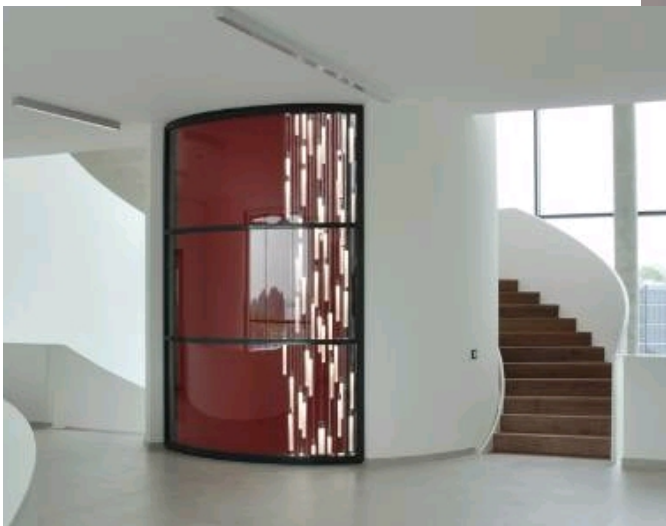
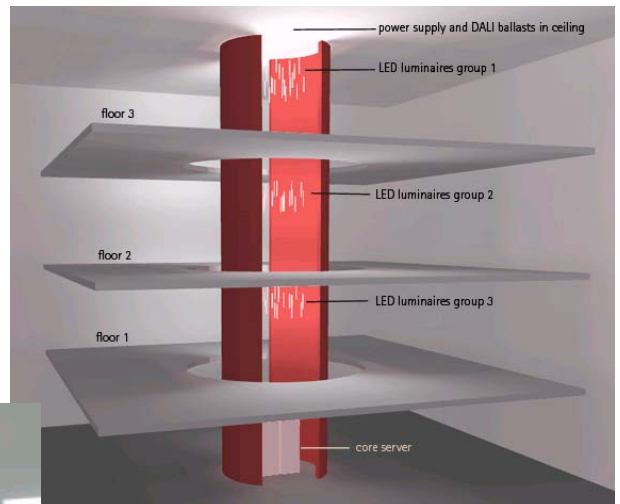
The luminaires made of 90 tubular HaloOptics® polycarbonate diffusors are suspended from a ceiling unit to transparent feed cables of various lengths. The ceiling unit also contains DALI ballasts ensuring that the 90 LED lamps can be dimmed in three independent groups according to each building floor. Thus diverse beam paths and light patterns can be generated via programmable dynamic scenes from the core servers at the bottom of the building across the entire building height.

With this unique LED installation, ETAP has impressively succeeded in reflecting the L und M mission, efficient flow of information, via the clever use of light.

### Lighting Controls Materials

- DALI Ballasts
- DALI Control system for grouping & scenes

**SOLUTION D:**  
Architectural  
Scenes & Modes



## Furet du Nord Lille.... High Ceiling Lighting

Illuminating an atrium from a height of 18 metres and achieving illuminance in excess of 800 lux! Impossible? Not to ETAP.. The result can be admired in the main branch of the Le Furet du Nord bookstore in Lille.

Le Furet du Nord on Place Charles de Gaulle in Lille is a concept in northern France. Books, multimedia and office supplies are on display over seven floors with an impressive 6,000 m<sup>2</sup> in surface area. Every day this bookstore, one of the largest in Europe, attracts thousands of buyers in search of reading or audio material.

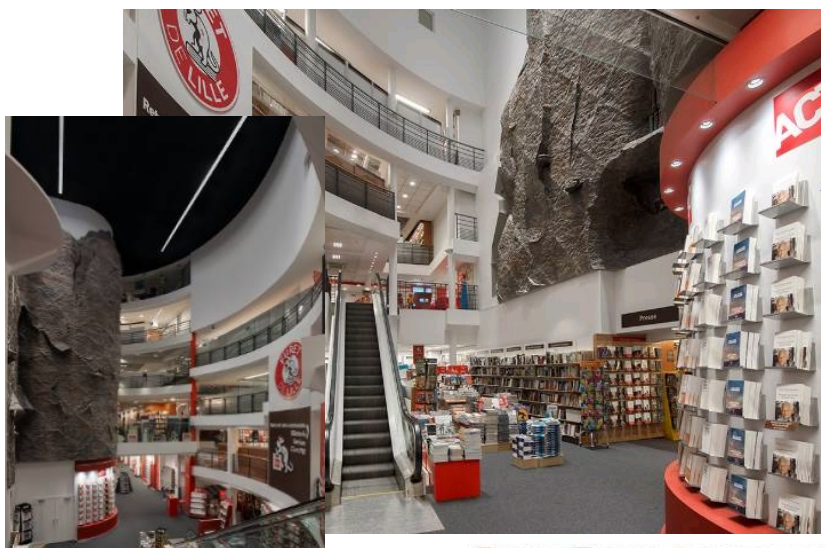
In 2014 the store underwent a thorough overhaul, with a lot of attention on lighting. In this context, the focus was on adjusted lighting levels in the various zones, visual comfort and energy efficiency. It is no coincidence that the architectural firm TGMP turned to ETAP for this project. ETAP has been Le Furet's partner for ten years, with projects in both newbuilds and conversions, in Englos, Coquelles, Aéroville and Dunkirk to name a few.

Since the atrium serves as the store's lobby as well as its reception area, the lighting level on the ground floor had to be high: more than 800 lux. The client requested an energy-efficient LED solution that would not require maintenance. ETAP's answer consisted of two 8-metre E7 lines with narrow-angle lenses. Our engineers were confident, which was a good thing: the correct measurement of the lighting level could only be carried out after the scaffolding required to install the luminaires at that height, was removed. Mission more than accomplished, and as a bonus it appeared that the imposing relief on one of the walls – a 'brick library' – could benefit from floodlight, thus attracting even more attention.

### Materials

- Atrium: E7 lines with narrow-angle lenses
- For each zone (middle aisles, wall racks, cash register) ETAP supplied the most suitable solution – primarily LED luminaires.

**SOLUTION E:**  
Architectural  
Integrated  
Lighting Systems



## Lyceum Het Vlier.... Excellent savings with Excellum

There is a clear connection between good learning performance and good lighting. This is certainly something the management of the Het Vlier grammar school in Deventer is convinced of. The complete renovation of the school building, whereby the new lighting installation is run by ETAP's Excellum building control system, supports this conviction.

This educational establishment, which operates 14 schools for special secondary education, pays particular attention to the quality and energy-efficiency of its buildings. A clever combination of intelligent time control, daylight-dependent control, adjustment to the task, presence detection and individual control provides students and teaching staff with the desired lighting level, always and everywhere. During the 2011-2012 school year, this has already resulted in an impressive 70% saving.

"Intelligent light control not always implies that the light is switched off or dimmed as much as possible," says Excellum engineer Paul Hoet. "On New Year's Eve, for example, a section of the school is intentionally lit in order to ward off vandals. Thanks to Excellum we are able to determine very accurately where and when the light will go on and off and how much light the luminaires give off. The individual control furthermore provides teachers with the opportunity to adjust lighting levels whenever necessary. "Since the renovation, Het Vlier achieves the A energy label," concludes a satisfied Arno Jansen. "The savings even exceed our wildest expectations".

### Lighting Control Materials

- Excellum control system



**SOLUTION A:**  
Lighting BMS  
and Energy  
Management  
System

**SOLUTION C:**  
Lighting Energy  
Savings  
Technologies &  
Systems

## OdyZeeschool.. Energy-neutral school proves to be very comfortable

The first energy-neutral school in the Netherlands was opened in Goes. The OdyZeeschool new construction was designed and built in compliance with recommendations by the PassiefBouwen Foundation. Innovative technologies keep energy consumption low. "The school building is not only sustainable, it is also very comfortable," according to project coordinator Koert Vahlkamp. Thermal management is monitored and seasonal. Solar panels and solar boilers fully cover the building's energy needs. "As it happens, comfort was one of the basic assumptions," explains Vahlkamp. "Since OdyZee is a school for children with learning difficulties, primarily autism (ASS). These children are easily distracted by environmental stimuli and are extra sensitive to draught and temperature fluctuations, which is why passive construction was also the right choice. The uniform high insulation values for roof, walls, windows and doors provides an even, pleasant surface temperature. The ingenious balance ventilation makes the building fully draught-free. We also used soft colours, neutral materials, suitable lighting and acoustic ceilings and walls." With respect to the five quality criteria for the Frisse Scholen hallmark, OdyZee scores "very good".

ETAP developed a specially adapted plan with energy-efficient, fluorescent lighting with dimmable high-frequency ballasts and luminaires in discreet colours and materials. The classrooms for example, have suspended luminaires with integrated uplight, which tie in perfectly with the acoustic ceilings." The lighting is also connected to a control system that dims and switches off the light wherever and whenever possible. The light is adjusted on the basis of various measurement data such as time of day, amount of daylight, type of activity or detected absence. They are also able to adjust individually where necessary. One of the system's attractive details: it reports exactly how much energy is saved where, which is highly stimulating."

### Lighting Control Materials

- EMS with sensors

**SOLUTION A:**  
Lighting  
Automation  
and EMS

**SOLUTION D:**  
Comfort and  
manual  
adjustment



## Universiteit Van Amsterdam (UvA)

ETAP was responsible for the (emergency) lighting in building G, a huge property on Prinsengracht, designed by architect Hulshoff in 1934. The building houses the psychology faculty. The client's specific requirements included: an LED lighting solution, 500 lux everywhere in the workplace, low glare (UGR < 19) and the option to adjust the lighting by means of presence detection and daylight-dependent control. The UvA, familiar with ETAP quality, opted for a LED+LENS™ solution: R7 surface-mounted and suspended luminaires and U7 recessed luminaires.

The lighting is operated without switches or push-buttons: the luminaires feature built-in sensors, which detect motion as well as measure incident light. The settings can be easily adjusted subsequently by remote control. Light control is not only about energy-efficiency. The user's comfort is also important. If no motion is detected for some time, lighting is initially dimmed. Subsequently the lighting is completely switched off. This in order to prevent abrupt transitions.

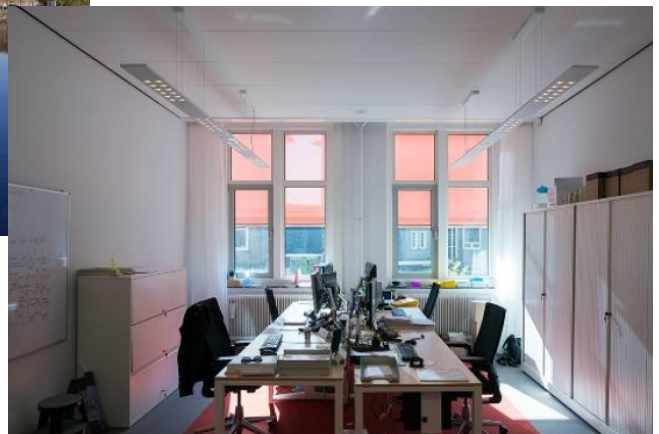
### Materials

- 90 U7 recessed luminaires
- 174 R7 suspended luminaires with light control
- 97 R7 ceiling-mounted luminaires with light control
- 57 K9 escape route lighting
- 84 K9 safety signage



**SOLUTION C:**  
Energy Savings  
Technologies &  
Systems

**SOLUTION D:**  
Modes for  
Comfort



## Groupe Scolaire Leval... Light control with EasyDim

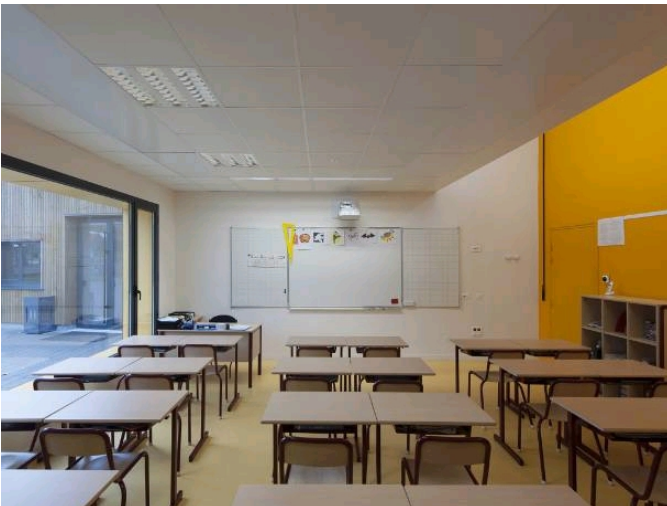
The striking wooden building with glass entrance hall dominates the junction of the main access roads into Leval, in northern France, where the children are now accommodated in a brand-new school building. ETAP supplied comfortable and energy-efficient lighting. In addition to local anchoring, sustainability was also a major focus for the building project. Major trump cards include the wood-fired boiler and of course ETAP's energy efficient lighting. "All classrooms have a double aspect thanks to their volumetry and overlook the playground," says Thierry Grislain. "As a result, both students and teachers benefit optimally from daylight." Daylight-dependent light control in the classrooms was therefore a logical choice.

Together with the HDM Ingénierie SA consultancy, ETAP developed a solution with EasyDim, with both daylight-dependent control and motion detection. For the luminaires, the energy-efficient U5 series was chosen, complemented by asymmetric reflectors for blackboard lighting. E5 luminaires, hidden behind the protruding ceiling, provide additional, indirect lighting. The school building's total energy consumption is 30 to 40% lower than the BBC standard (Bâtiment Basse Consommation).

### Materials

- Classrooms: 60 U5 and UT6 recessed luminaires
- Classrooms: 20 E5 surface mounted luminaires
- 20 EasyDim units
- Children's sleeping spaces: 24 UM1- en R8 diffuser
- Corridors and traffic spaces 84 D13- en D42 LED downlights
- Emergency: 14 K7- en K8 luminaires

**SOLUTION C:**  
Energy Savings  
Technologies &  
Systems



## Musée du Masque.. Superior safety for museum in Binche

*Emergency lighting is of critical importance in a museum. ESM, ETAP's central management system ensures that every technical failure is reported instantly.*

The Binche carnival is world-renowned. In 2003 Unesco recognised the 600-year old popular festival with the Gilles de Binche parade as its highlight, as Intangible Heritage. The small Walloon town is therefore the ideal venue for a carnival and mask museum. Visitors can admire a unique collection of masks, costumes, dolls and ritual objects from across the globe. The Musée du Masque won the Belgian museum prize in 2012.

For the safety of visitors, which include many children, quality emergency lighting is critical in a museum. This certainly applies to the Musée du Masque, which is housed in a handsome historic property with numerous corridors, staircases and small rooms. Whenever the lighting fails, it is not that easy to quickly locate the exit. In the event of an emergency, reliable antipanic and escape route lighting as well as unambiguous signage can prevent disasters and even save lives.

ESM allows for remote control and management and provides instant alerts after failure of the emergency lighting installation. The system also features an automatic logbook function where all inspections and maintenance activities are stored. Such a logbook is required under European standard EN50172.



### Materials

- Visitors Areas: K9; for its compact and stylish design the luminaires are perfectly integrated into the environment, in order not to distract visitors from the collection
- Offices: K1
- Exits: K2
- **Lighting Control:** ESM (ETAP Safety Manager)

**SOLUTION B:**  
Smart Safety,  
Emergency &  
Security Lighting

**Musée du Masque..** Superior safety for museum in Binche

ETAP Safety Manager 

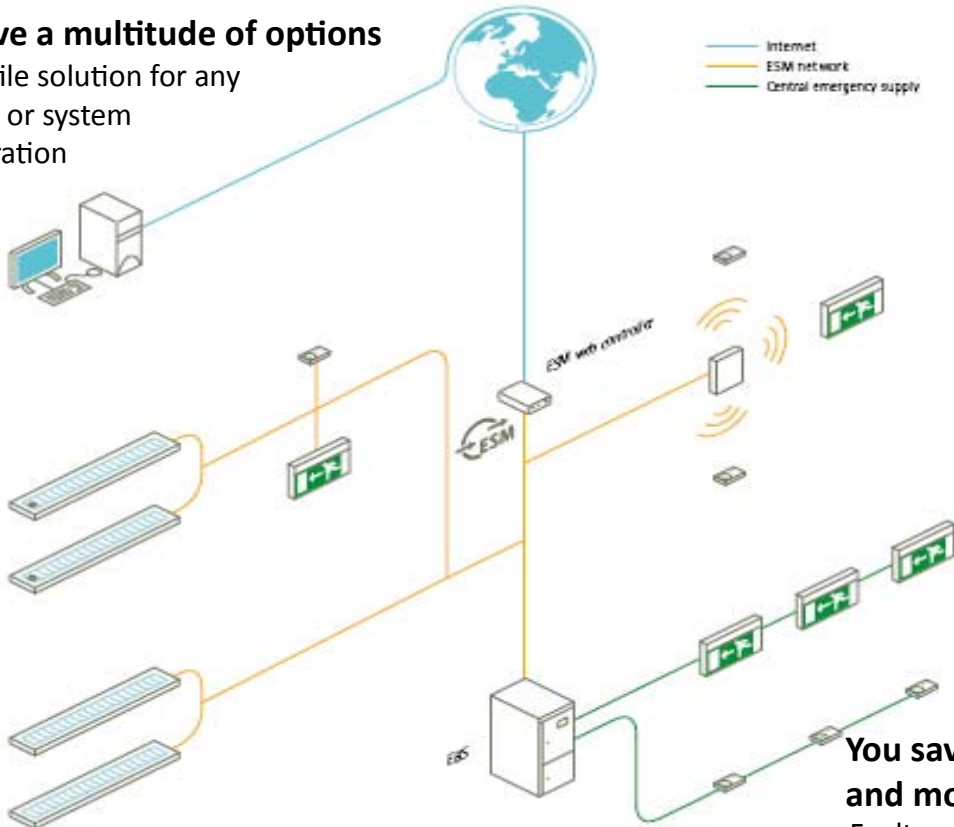
Your emergency lighting under control: anywhere, anytime

You can choose a wired or a wireless network, or a combination of both. With ESM you manage not only your self-contained and central battery emergency lighting luminaires, but also any emergency units or K9 LED emergency modules that are integrated with the luminaires.



**You have a multitude of options**

A versatile solution for any building or system configuration



— Internet  
— ESM network  
— Central emergency supply

**User friendly system**



The window colours give you immediate recognition of the status of the luminaire's functionality.

**You get extra safety**

Code	Serial number	Description	Mode	Type	Lamp
K1_HSL004	000122	Showroom 1, auditorium door			
K1_HSL005	001234	Showroom 2, staircase			
K1_HSL006	000002	Lobby, outside door			

Logbook according to EN50172.

You can not only monitor but also actively manage your emergency lighting system from any location. You can yourself easily set the test moment, switch a maintained luminaire or start a interim test or set luminaires in rest mode.

**You save time and money**

Fault messages contain all the information you need to remedy them immediately:

location on a map or picture, type of luminaire, description of the defect, required spare parts.



## UZ Saint-Luc.. Dynamic 'daylight' in the Intensive Care unit at University Hospital Saint-Luc

As in most hospitals, the Intensive Care unit was until recently laid out as an open space, with no separation between the beds. This arrangement had certain disadvantages that are well known, such as a lack of peace and privacy for patients, the room being under constant illumination, and all patients being disturbed if an intervention is necessary.

Early in 2007, the Saint-Luc University Hospital started renovating the Intensive Care unit so that it could get rid of these problems and thereby increase the level of comfort of patients and medical staff. The open space was replaced by individual rooms, situated around a central observation room. In this way, medical staff are able to keep every room under observation.

The individual rooms are equipped with square closed UM1 luminaires with MesoOptics™ optics and "dynamic lighting". MesoOptics™ is an innovative technology that allows the creation of a very precise microstructure topography which spreads the light in a controlled, diffuse way. MesoOptics™ optics distribute the emerging light evenly over an entire surface and exclude colour interference. The "dynamic lighting" is programmed in such a way that in daytime, the light changes in colour and intensity. This is particularly important for rooms that do not have outside windows. Medical staff can override this automatically regulated system and make available a luminous intensity of 1000 lux over a bed in order to undertake medical interventions.

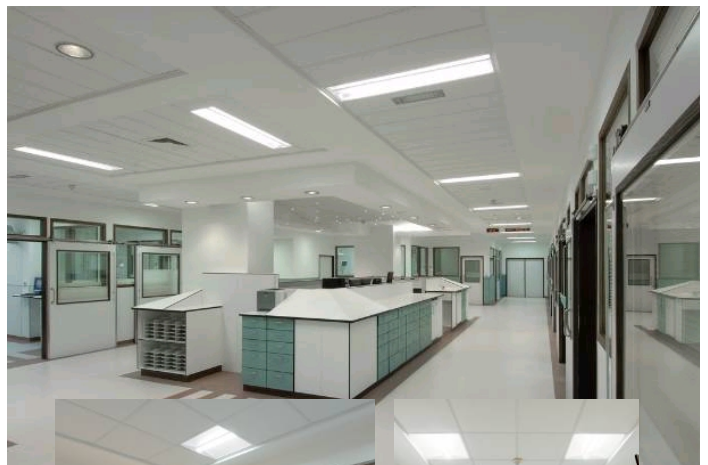
The corridors of the department are fitted with downlights with a protection level of IP44, and also with square Thalia® luminaires and UM1 rectangular luminaires. The emergency lighting in the department has been laid out in the form of recessed luminaires from the ETAP Safety Manager (ESM) system. This allows monitoring and control of the emergency lighting to be undertaken remotely.

### Materials

- Intensive care Rooms: square closed UM1 with MesoOptics with daylight simulation temperature color
- Corridors: IP44 downlights, square Thalia & UM1 rectangular
- **Lighting Control:** Dynamic Lighting & ESM (ETAP Safety Manager)

**SOLUTION B:**  
Smart Safety,  
Emergency &  
Security Lighting

**SOLUTION F:**  
Dynamic, Logic  
& Sensors  
Controllable  
Lighting Designs  
and Solutions



# UZ Saint-Luc.. Dynamic 'daylight' in the Intensive Care unit at University Hospital Saint-Luc

## UM with MesoOptics™

Micro technology MesoOptics™ is an innovative technology that creates specially designed microstructures onto a transparent material. This three dimensional structure is very fine (5 micrometer) and cannot be seen with the naked eye. MesoOptics™ distributes the light in a well-controlled way. There are almost no reflections in the material itself.

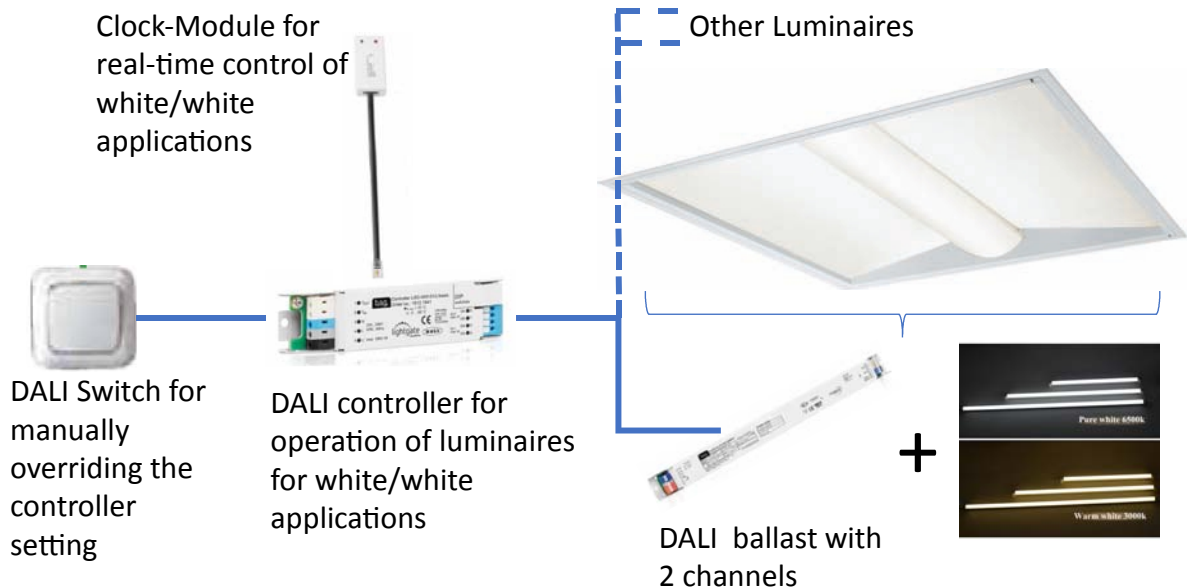
### Advantages:

- Higher LOR than conventional diffusers
- Significant energy savings
- Less luminaires
- Controlled light distribution
- Evenly lit diffuser, no disturbing luminances
- Pleasantly lit spaces
- Easy installation and maintenance



## Dynamic light

Dynamic light allows you to vary the intensity, colour and distribution of the light according to particular scenarios. ETAP offers all building blocks for dynamic light in the medical sector. You draw up the light scenarios with your medical specialists, and we translate them into a practical solution.



## Hotel Mercure.. LED lighting for atmospheric hotel rooms

LEDs are increasingly finding application in the professional market. The Accor group, for example, asked to work out a project with LED lighting for the Mercure Etoile Hotel in Paris.

It is perfectly possible to create atmospheric room lighting with LED luminaires. Various atmospheres can be created by means of colour control. The slightly greater initial investment is fully recovered after a few years thanks to the low energy and maintenance costs of LEDs as compared to conventional halogen lighting.

Beside the entrance hall, the lobby and the restaurant, a total of 50 rooms were equipped with LEDs. A LED strip provides indirect lighting behind the bed. The glass partition between bathroom and bedroom is illuminated from above by Pluto luminaires (8W) with colour control. The same Pluto luminaires (7.2W) are used in the bathroom to create atmospheric light.

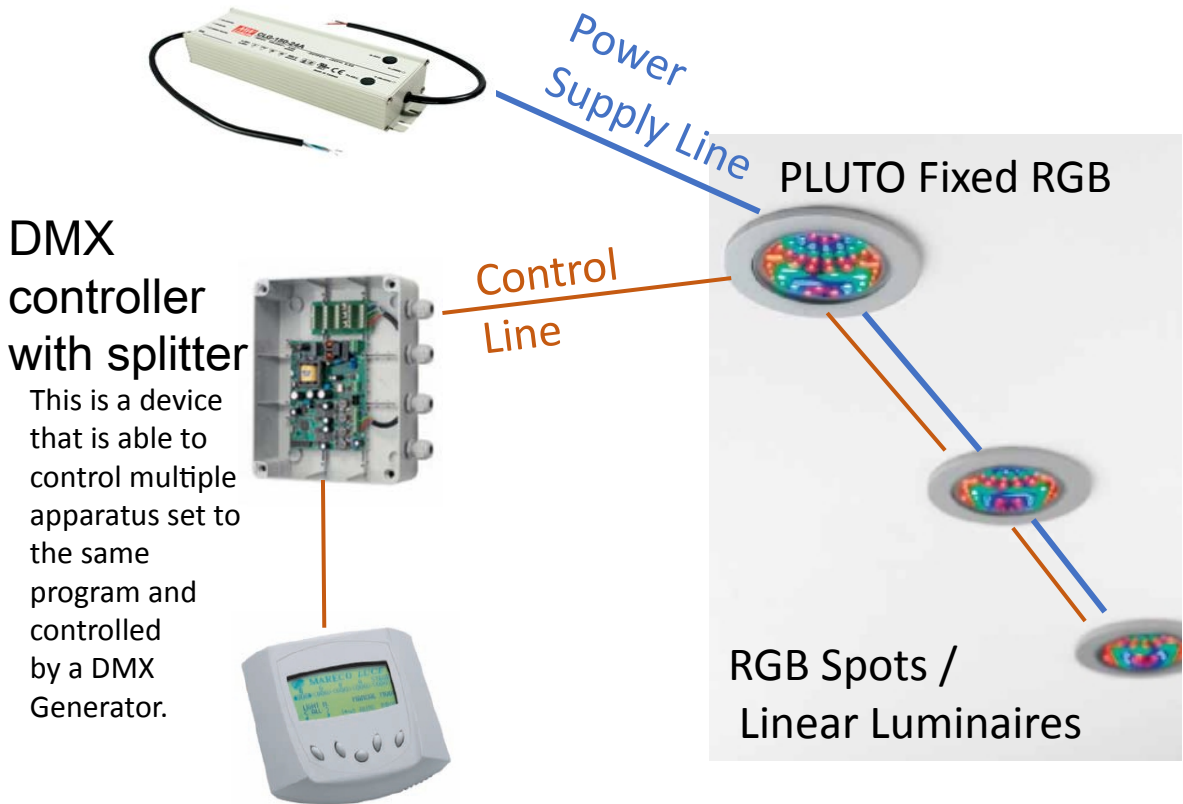
### Lighting Control Materials

- Colour Control



**SOLUTION D:**  
Architectural  
Scenes & Modes

# Hotel Mercure.. LED lighting for atmospheric hotel rooms



## DMX Generator

This is a programmable device used to control up to 6 groups of apparatus individually for independent light displays, via a special DMX controller (max 32). By using a filter to cut down on any interference, it can communicate with a DMX controller over a significant distance.

Via the interactive alphanumeric display you can choose manual or programmed modes.

## SYSTEM COMPONENTS

POWER SUPPLY

CONTROL UNIT for dimming and scene setting program unit

LDI bus drive (mini program unit soft)

RS232 interface

DMX 512 converter

