

LIGHTING TAILORED TO MUSEUMS

ENHANCE THE EXPERIENCE WITH LIGHT

With the Gruuthuse Museum, Bruges has a new tourist attraction. After an intensive five-year renovation, this former city palace of Lodewijk van Gruuthuse has regained its grandeur of yesteryear. The 19th century 'musée d'antiquités et de dentelles' is now a contemporary museum that tells the story of 500 years of Bruges history. The collection is exhibited in a particularly pleasant setting that is based on "smart" lighting that offers many advantages.



Sophisticated lighting with durability and user-friendliness had to be combined in the Gruuthuse Museum.

In the Gruuthuse Museum, majestic tapestries, unique Gothic stained glass windows, expressive portraits and artistic porcelain and silver tell the story of three crucial periods in Bruges' rich history. This takes place in a special atmosphere that radiates serenity and warmth. "Adapted lighting plays a leading role in this," says coordinator Aleid Hemeryck. "The lighting brings the art objects and the building to life. In almost every museum she makes or breaks the experience. A well thought-out lighting concept is also crucial for the maximum preservation of the collection. Old works of art are particularly sensitive to light, which means there is a real risk of damage if they are exposed too intensely for too long."

SMART THANKS TO UNIQUE LED MODULES

Sophisticated lighting in the Gruuthuse Museum had to be combined with durability and user-friendliness. Joost De Bey, who was hired as an independent lighting consultant, added another 'smart' layer to the package of requirements. The Lux Company turned out to be able to respond best to the requirements of the tender document. "This company distributes lighting equipment from Scottish Stoane Lighting that uses our LED components," says Patrick van der Meulen, business development manager at Xicato.

"They have some unique properties. This means that the luminous flux and color consistency are better maintained over the entire lifespan than with most other LEDs on the market. This is a special asset for museums because light is not purely functional there: the lighting influences the way in which art is experienced. In addition, numerous sensors are built into our LED modules," continued Patrick. "On the one hand, these protect the LEDs, among other things through temperature monitoring. On the other hand, the sensors create additional functionality for lighting and other applications. For example, the built-in beacons allow location-driven services. For example, we think of an application that provides information on the smartphone or tablet of the visitors about the art object they represent."

TWO PERSPECTIVES, ONE APPROACH

Both object and general lighting was provided. Although both require a different approach, the project was tackled integrally. In this way, both types could perfectly complement or, better still, reinforce each other. For object lighting, Bluetooth Low Energy is used for control, while general building lighting is via DALI. "This turned out to be cheaper and functionally more interesting," said Rob Verbeelen, Luxendi's general manager. "For ease of use, the museum chose to manage everything via the iRidium platform. This makes it possible to link the various technologies, including the audiovisual installations, and thus manage everything from the same GUI (Graphical User Interface)."

MUCH LESS CABLING REQUIRED

The fact that the Xicato LED modules for object lighting work with wireless Bluetooth Low Energy communication is a special asset. This open, global standard is used in many devices today. "This allows the LED components to be adjusted via tablets and smartphones," says Rob Verbeelen. In addition, a link with the computer can be made via a dongle: easy to program and to request settings / monitoring data. After a short training, the user can do this himself, but in this case it was Helvar Lighting Controls that took care of the initial programming.



The built-in beacons of the LED components allow location-based services.



Old works of art can be damaged if they are exposed too intense for too long.

Also, not unimportant is the fact that a lighting installation on Bluetooth Low Energy requires much less cabling, since the communication / control is wireless. This is all the more interesting in renovations, especially in listed buildings. In addition, Bluetooth Low Energy allows a mesh structure as a network topology. Each module in the network has its own intelligence, making central control a thing

of the past. An important advantage of this is that the proper functioning of the lighting installation does not depend on one central component. As a result, the vast majority of the installation will continue to do its work pending the replacement of a broken component.



The fact that a lighting installation on "Bluetooth Low Energy" requires much less cabling is a great asset in protected buildings.

OPPORTUNITIES TRUMPS

The lighting has been operational for several months, so that an initial assessment can be made. "We receive a lot of compliments about the atmosphere in the museum," says Aleid Hemeryck. "That means that the lighting fulfills its role with flying colors. We are convinced that the solution will also meet expectations in terms of energy efficiency, flexibility and quality. Now it is up to us to further exploit the "smartness" of the system. For example, it is perfectly possible to calculate, based on the burning hours, when a work of art should be moved back to the archive for a short while in order to prevent excessive aging. We also think it would be interesting to take advantage of the beacons' ability to develop location-based services. We could even respond creatively to Covid-19, for example with a warning signal when there are too many visitors in the same room. Another option is that technical services automatically receive an SMS if something goes wrong with a module. The conclusion is clear: we have a particularly innovative lighting system with numerous possibilities. Now it is up to the technical services to get creative with it. Maybe the initiatives will take some time to come, but that's okay because the technological potential is there."

BETTER NOT SPLIT UP INTO LOTS

However, the process to achieve this clever lighting installation did not always go smoothly. As a result of the ongoing procedures within the government contracts, the lots "cabling" and "installation of luminaires" were tendered separately. "This was an extra challenge that required additional coordination from the many parties involved," says Aleid Hemeryck. "The fact that we should ideally

include cabling and lighting better in one big lot is without a doubt an important lesson we have learned from this project. However, it will not always be possible to split up in the future. In that case it is very important that each party takes its responsibility, which is the case with Gruuthuse by the way. " In any case, the exchange of information between the various subcontractors and the timely involvement of all parties involved is extremely important in order to expose any misunderstandings in a timely manner. Otherwise, there is a high risk that serious problems will occur during implementation or that the installation is determined to be unnecessarily complex. A final message that Rob Verbeelen likes to pass on: "Just like in so many projects, we also noticed in Gruuthuse that the design team and the customer often underestimated the total cost. Too often the budget is limited to the lighting equipment and cabling. However, a budget must also be provided for installation, programming and integration with other solutions. It is even recommended to include follow-up and subsequent adjustments in the specifications."



It is important to include a budget for installation, programming and integration with other solutions in the lighting budget.



TO REMEMBER:

- Lighting systems with wireless control are certainly very interesting in renovation projects, since additional work is minimized by (re) cabling.
- The various parties must be involved in the project on time. Clear communication is also required with special attention to subcontractors and the integrator.
- The design team and the customer must not only take into account lighting appliances and cabling when drawing up the total cost, but also the installation, programming and integration of lighting with other technologies.

Place:	Bruges
Type of building:	Museum
Client:	City of Bruges
Installer:	Lighting consultant Joost De Bey
Integrator:	Helvar Lighting Controls
LED component manufacturer:	Xicato
LED component distributor:	Luxendi

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