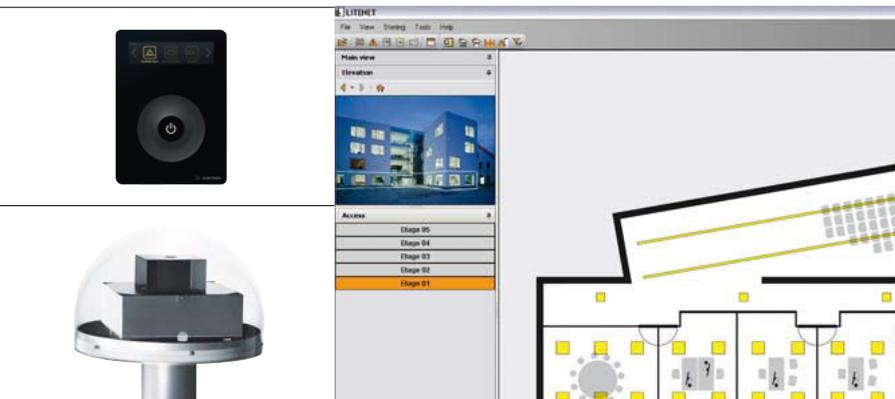




**ZUMTOBEL**

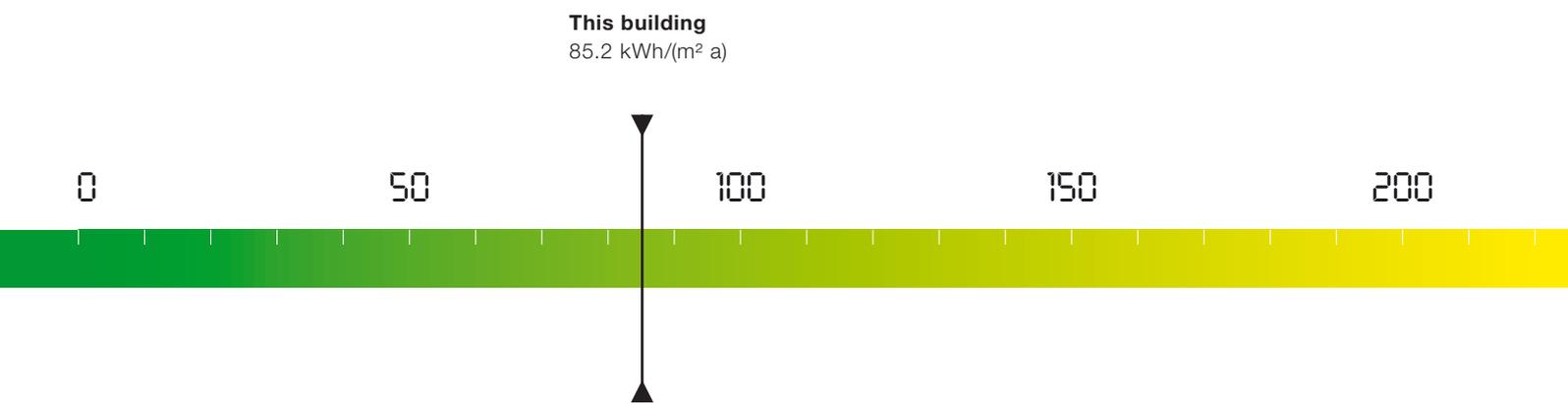


## **LUXMATE LITENET**

The intelligent way to reduce energy consumption: the permanently flexible lighting management system handles small properties just as flexibly, conveniently and reliably as an entire building complex.

# LUXMATE LITENET

Unbeatably efficient



For Zumtobel, the responsible handling of resources spans all areas. As such, LUXMATE LITENET is an effective means to an end, achieving as much convenience and lighting quality as possible with a minimum of energy, materials and time invested. Demands coupled to energy consumption increase the economy of the CO<sub>2</sub> reducing measures even further. The legal basis for this was already laid down in the 2002/91/EC Energy Efficiency Directive. This presents planners, building developers and operators across Europe with major challenges; these, however, are optimally met by LUXMATE LITENET with its wide range of energy saving functions.

250

300

350

400

&gt; 450



# The four LUXMATE LITENET strategies

for optimal convenience and minimum energy consumption

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## Maintenance control

**An unnecessarily high light output? Not possible.** The Maintenance Control function compensates for fluctuations of illuminance caused by ageing and maintenance, enabling light output to remain constant over the years and the relevant EN 12464 standard for minimum illuminance values to always be complied with. The technically specific over-dimensioning of lighting systems is used so that energy is saved and maintenance intervals are optimised.

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## Dimming

**Just bright enough.** The right level of brightness varies according to the activity being carried out. Dimmed light increases visual comfort and at the same time offers a high potential for energy savings. LUXMATE LITENET optimally takes advantage of such dimmable lighting system capabilities, and in addition gives users a tool for composing lighting scenes themselves and calling these up at a single press of a button.

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## Time and presence-based management

**No need, no energy consumption.** The most expensive light is that which shines in unused rooms. LUXMATE LITENET integrates intelligent time and presence-based control systems into lighting management. In this way, light is automatically dimmed for example during lunch breaks or at the end of the day. Where people are still working, simply pressing a button suffices to leave lighting switched on or to switch it on again.

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## Daylight-based management

**The most convenient light is free.** People perceive daylight as being especially pleasant and motivating. Daylight used optimally reduces not only the consumption of energy but also simultaneously increases room quality. LUXMATE LITENET supplements artificial light depending upon available daylight and also integrated blinds into the concept. After all, the effective use of daylight is based upon striking a balance between beneficial properties and the avoidance of distracting effects.

**-5%** energy consumption



**Maintenance Control**

Dimmable luminaires  
Time and presence-based management  
Daylight-based management

**-30%** energy consumption



**Maintenance Control**

**Dimmable luminaires**  
Time and presence-based management  
Daylight-based management

**-50%** energy consumption



**Maintenance Control**

**Dimmable luminaires**  
**Time and presence-based management**  
Daylight-based management

**-70%** energy consumption



**Maintenance Control**

**Dimmable luminaires**  
**Time and presence-based management**  
**Daylight-based management**

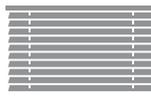
## More daylight, more convenience, less energy consumption.

Daylight enhances an individual's sense of wellbeing and the performance of employees, and it is extremely suitable for fulfilling visual tasks in the workplace. At various times of day, supplementary artificial light would be a mere waste of energy. With LITENET, the optimum utilisation of daylight is a simple task. The amount of daylight currently available for each room is calculated by using data from a central daylight sensor, and the difference between the actual value and target value is continuously supplemented with artificial light. Blinds are controlled accordingly to prevent excessive heat and glare but nevertheless let through as much diffuse daylight as possible. The system can be adjusted to suit individual needs at any time.



### **A smart sensor**

The daylight sensor monitors the sky conditions and changes to these with photocells and infrared sensors. It differentiates between diffuse light and direct incident sunlight for the intelligent control of artificial light.



### **Daylight-based blinds management**

Blinds controlled via LITENET promote people's sense of well-being and at the same time combine five possibilities for intelligently using daylight: protecting against glare, specifically directing sunlight, maintaining good visual communication, controlling the room climate both in summer and winter, and aesthetically designing facades.

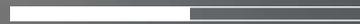


Using individually dimmable luminaire rows, every single bit of daylight in the depths of the room is optimally used for saving energy and simultaneously increasing visual comfort.



07:02 am The natural morning sunlight wakes up sleepy heads. Lack of brightness is compensated for, by the luminaires, with efficiently appropriate levels according to activity and distance from the window.

current energy consumption **119.5** Watts

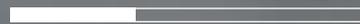


50 % of a total of 239 watts installed load



15:07 pm LUXMATE LITENET also has the right recipe for horizontally incident rays, for using as much daylight as possible and at the same time for counteracting any adverse effects. Artificial light automatically creates the required compensation.

current energy consumption **82.4** Watts



34.5 % of a total of 239 watts installed load



11:45 am At lunchtime the sun is at its zenith, which may lead to undesired glare and warming. Correctly positioned blind slats allow sufficient light to enter the room, and luminaires directly at the window front are heavily dimmed.

current energy consumption **22.7** Watts



9.5 % of a total of 239 watts installed load



19:17 pm A clear view through the open blinds brings evening atmosphere into the room. Indirect distribution light creates a pleasant ambient brightness. The visual task determines the right quantity of direct light.

current energy consumption **205.5** Watts



86 % of a total of 239 watts installed load

## Either ... or?

The answer from LITENET: according to requirements



**ECOOS**  
Individual luminaire and continuous row system  
[www.zumtobel.com/ecoos](http://www.zumtobel.com/ecoos)



Intelligence in the luminaire –  
additional functions are  
enabled on demand.

Gone are the times when a luminaire's function was already fixed at the time of purchase and could only be changed at great expense and effort. Zumtobel decouples functionality from hardware and transforms the luminaire into a multifunctional tool that adapts to changing requirements. Switching or dimming? Standard or emergency luminaire? Decisions such as these can be put off until later, because On Demand luminaires by Zumtobel make additional functions available when required.

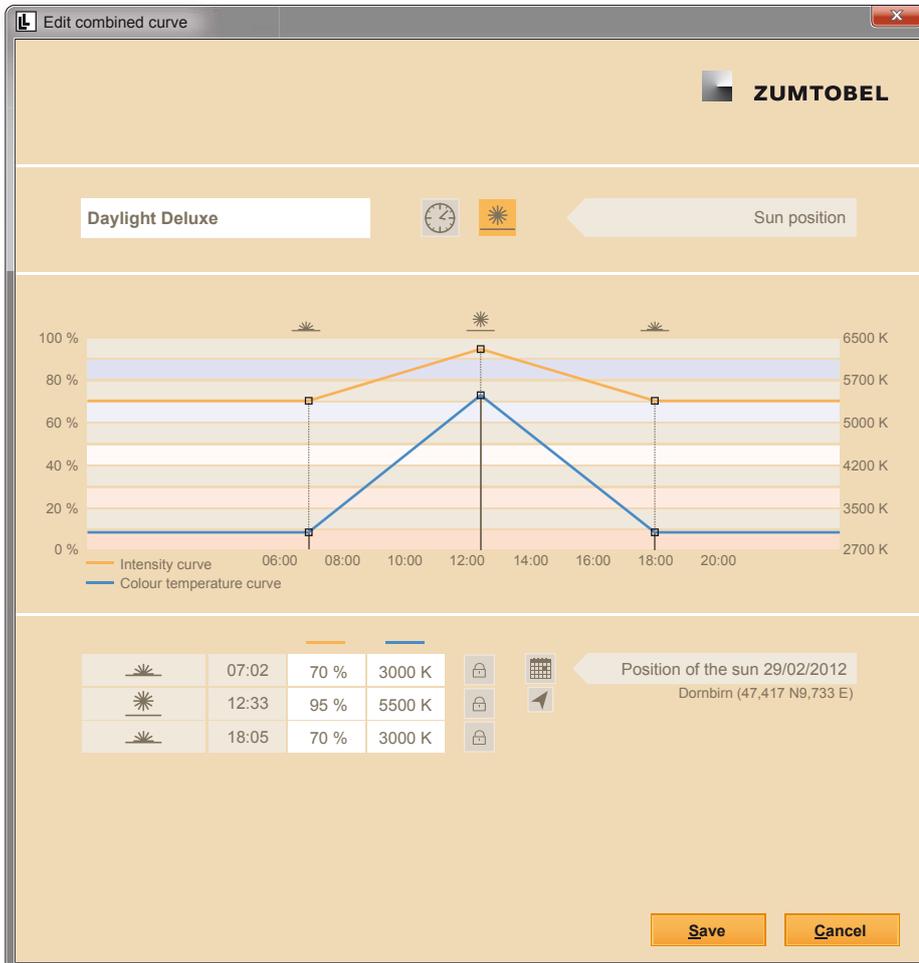
Function overview  
**LUXMATE LITENET**

	<i>Basic functions</i>	<i>Additional functions</i>
Surface flexibility	•	
Usage flexibility	•	
Central monitoring	•	
Function adaptation via room profiles	•	
Time-based management	•	
TUNABLE WHITE Control	•	
Presence-based management	•	
Maintenance control	•	
Convenient operation	•	
E-mail and fax notification service	•	
ONLITE emergency lighting integration		•
Web-based operation		•
Central graphic visualisation and operation		•
Daylight-based lighting management		•
Daylight-based blinds management		•
System integration via BACnet or OPC *		•
Dynamic Lighting		•
Remote maintenance		•
Maintenance contract		•

**Investing when you need it** LUXMATE LITENET postpones investment until the time when it is actually required. This means that you decide on new functions and their cost only when there is a real need for them, for example when the use of a room changes or when a new tenant moves in and is willing to pay for an upgraded lighting solution. “On-demand features” reduce building owners investment risks and capital commitment and ensure that tenants wishes are met with greater flexibility. The basic functions of LUXMATE LITENET can be extended at a later time without installation or conversion work. The customer can purchase the additional functions in the form of “flex credits” and enable desired functions in the system via software.

# LUXMATE LITENET with TUNABLE WHITE

Latest-generation lighting management



The lighting intensity and colour temperature of luminaires can be intuitively adjusted on graphically displayed timelines completely independently of each other.

LUXMATE LITENET manages small building units just as reliably as large building complexes. The latest equipment generation has seamlessly integrated the control of TUNABLE WHITE luminaires into the system. This makes it possible to specify the intensity and colour temperature of luminaires completely as desired and independently of each other. Thus, Zumtobel is delivering more than just technology.

08:00

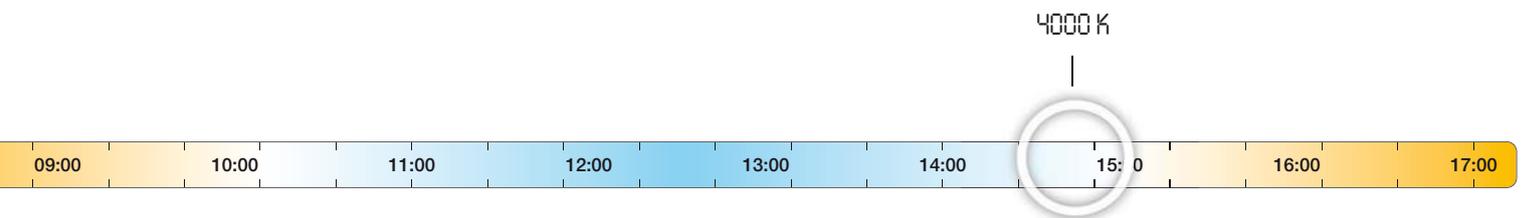
The system also features a beneficial lighting concept based on the very latest scientific findings: predefined sequences over the course of the day for offices, production facilities or health-care settings optimise lighting for these different application areas. Starting, stopping and turning points for these sequences can be set depending on the position of the sun. This combination of dynamic colour temperature control and daylight-based intensity control produces a lighting solution that offers simply outstanding levels of convenience and efficiency.



10:30 Artificial lighting is turned down as more daylight becomes available and the light colour is made more intermediate



14:30 Intermediate white corridor and wall-mounted luminaires supplement the general lighting and compensate for low levels of daylight



# Digital lighting management

## Redefining rooms by a mouse click



Anyone investing in modern office premises or office buildings has to factor in possible changes over the entire useful life of the property. LUXMATE LITENET has mastered the fine art of long-term flexibility. Rooms can be made bigger, smaller or eliminated without any physical work on the lighting installation thanks to intelligent software. If for example a mobile partition is moved, the lighting system is simply reconfigured by a mouse click. A room previously used as a single-person office can then become part of an open-plan office. The luminaire groups can be flexibly divided or consolidated, without wiring effort, without the need for configuring hardware and without specially trained service technicians. The luminaire in former Room A becomes the luminaire for Room B by a mouse click. And the corresponding control units and switches are simply reconfigured via software as well.

### Your office **TODAY**

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The linearity of the team office is loosened up with a meeting table. Luminaires and blinds can be controlled separately or together via the CIRIA control point on the left, or the cable and battery-free wireless touch switch on the glass partition on the right. All employees can also select the desired lighting scene via notebook, web browser and TCP/IP network.



### Your office **TOMORROW**

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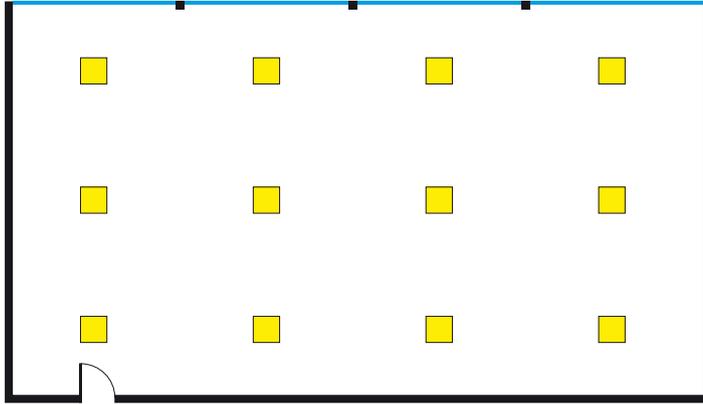
The room is partitioned by a glass panel. Both sections are now used separately without intervening in the existing wiring. The assignment of the luminaires and blinds is defined via the LITENET software with drag and drop: luminaires and blinds in the single-person office are operated via the CIRIA control point, and in the meeting room the wireless touch switch is used.



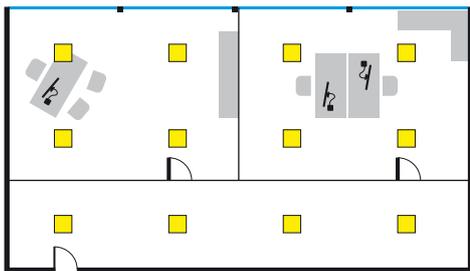


## Area flexibility

The simple adoption of usage concepts

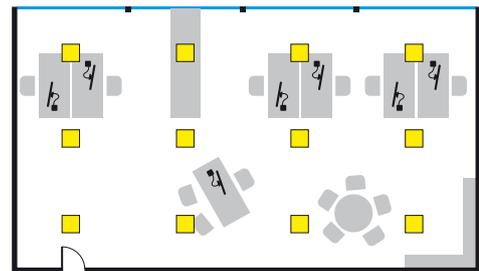


Basic room layout



Room use 1 | **Single-person offices with corridor**

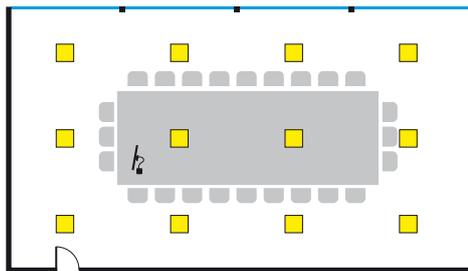
Two offices and a corridor: the room-specific functions of the lighting can be simply defined via the room profile. Presence detectors in the offices switch luminaires on and off. In the corridor the luminaires can be switched off automatically following a freely defined time period. A room profile solution is also offered with presence detectors and minimal lighting.



Room use 2 | **Team office**

An open-plan office: the room profile coordinates ambient lighting using presence detectors installed above the workstations and meeting places. This guarantees that energy is also saved during normal work periods, as soon as the light can be dimmed or when employees leave their desks.

**Drag & Drop** Rigid room and workplace structures are being superseded by flexible, demand-oriented usage concepts. Various room uses make differing demands upon the lighting. LUXMATE LITENET is familiar with all of the features of offices, communication areas, conference rooms and corridors, and all typical uses are stored in the system as room profiles. These can be transferred to the room, independent of the number of luminaires. Drag & drop – and the various functions of luminaires and control units are already defined according to use. This shortens the time needed for basic installation and for each adaptation. Individual adaptations to customer requirements are carried out quickly and professionally.



Room use 3 | **Conference room**

A conference room: the operating units control all luminaires in the room. The presence detectors are used to automatically switch off the luminaires without recognizable use following a freely defined time period. At last: an end to brightly lit conference rooms devoid of people.



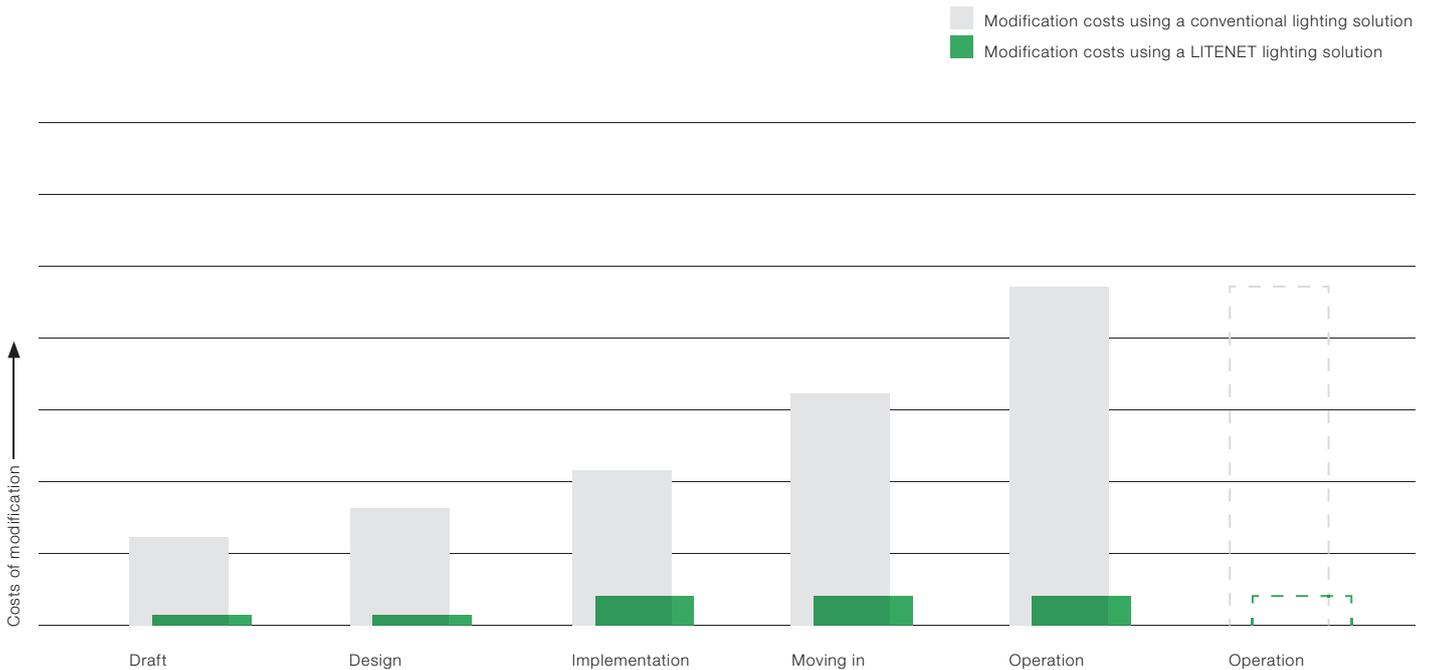
Room use **X**

LUXMATE LITENET makes available a highly diverse library of room profiles for various interiors. All room profiles can be simply transferred and individually adapted when required.

# Investing intelligently

At the right place, at the right time

## Costs for modification of the lighting solution over the complete life cycle of a building



An analysis of the building costs over the complete life cycle shows that expenditure for renovations and adaptations add up significantly over time. LUXMATE LITENET, however, keeps modification costs low for all project phases.

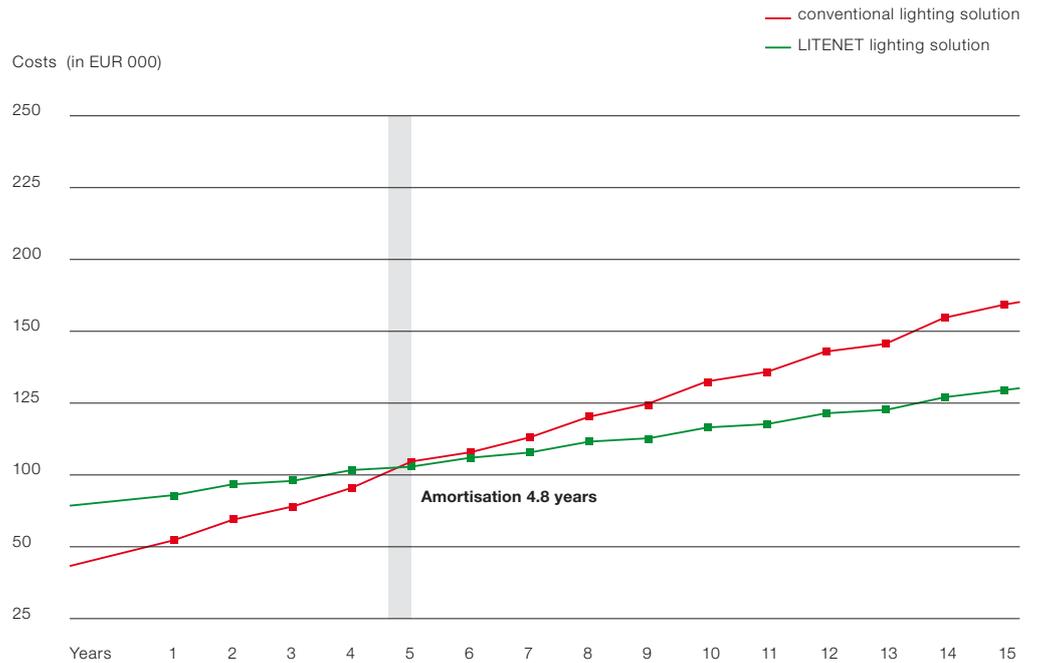
**Draft and design** With a conventional installation, a new module is required for every functional adaptation. Subsequent modifications mean unpredictably high costs. With LITENET this is completely different: because infrastructure remains the same, costs are minimised.

**Implementation** If additional functions were desired, this used to require an investment in new hardware. Material already supplied had to be replaced. With LITENET, reorganisation is implemented via software – simply and without wiring.

**Moving in** With conventional installations, adaptations desired by tenants during the moving in phase incur high material and personnel costs. With LITENET, modification requirements are carried out via a computer, without touching the wiring.

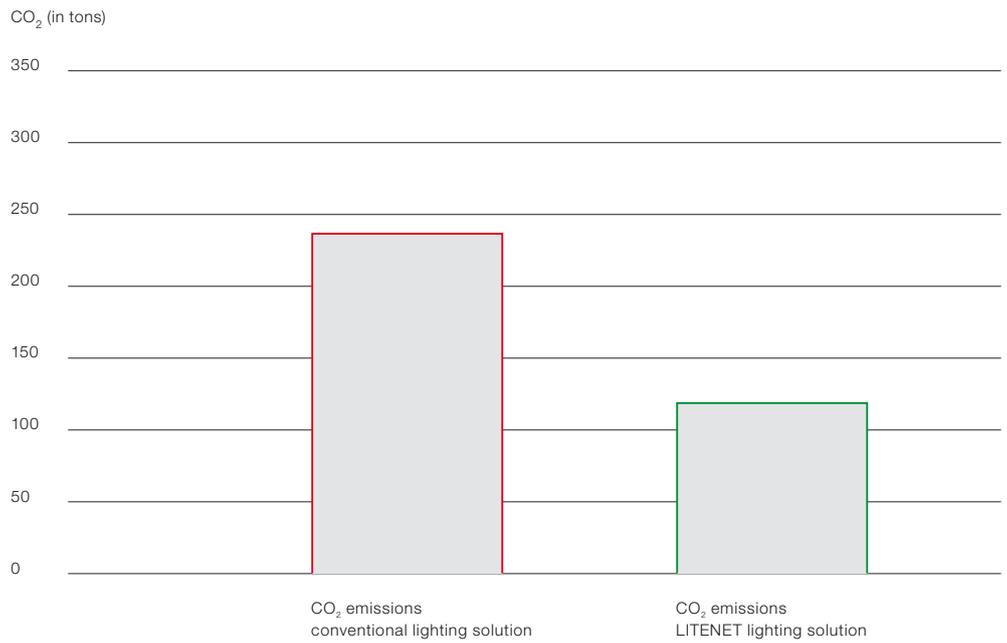
**In operation** During operation, simple reorganisation via software pays off twice: LITENET not only minimises costs for material and work time but also costs caused by disruptions to operation or idle operation that normally always occur with adaptations or reorganisation.

### Amortisation of the lighting solution (calculated using ecoCALC)



Slightly higher costs must be expected at the introduction of an innovative lighting solution. This pays itself back from the very first day with added convenience and flexibility. And in terms of economy as well, the investment is quickly amortised, the point of amortisation already being reached after four to five years. The low energy consumption and efficient maintenance processes involved keep running operational costs low. Seen over the life cycle of the building, LUXMATE LITENET is therefore the solution that costs less and at the same time offers more amenities.

**CO<sub>2</sub> emissions over the complete life cycle of your buildings** (calculated using ecoCALC)



The combination of energy efficient light sources, components and luminaires, controlled by intelligent management systems with day-light integration, allows integral lighting solutions. They contribute to a careful handling of resources. With an intelligent and sophisticated lighting management system such as LUXMATE LITENET, up to 70 % of lighting energy can be saved, also meaning less emission of environmentally harmful CO<sub>2</sub>. ecoCALC helps you calculate and graphically display the CO<sub>2</sub> consumption of your building.

# ecoCALC

With the new ecoCALC calculation program by Zumtobel, the costs incurred for a lighting solution over its complete service life can be determined. Not only investment costs are calculated; ecoCALC also considers the financial aspects for a resource-saving lighting system. These include among others: CO<sub>2</sub> emission, energy consumption, maintenance costs and waste disposal.

## What ecoCALC can do:

- Consideration of sustainable lighting levels, and costs of a lighting solution incurred over its complete life cycle
- Dynamic comparison of several lighting solutions
- Ranking of solutions under consideration of flexible evaluation criteria



Quick-link via mobile phone to  
[www.zumtobel.com/ecocalc](http://www.zumtobel.com/ecocalc)

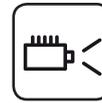
## Variable scene concepts

The direct way to create an ideal lighting scene



### Meeting scene

A bright room with a large direct light component is ideal for meetings in which notes are taken.



### Video projector presentation scene

The room is perfectly set for presentation at the press of a button: the lighting level is dimmed, blinds are lowered and the screen is brought into position.



### Each activity has its own perfect lighting scene.

LUXMATE LITENET enables users to compose suitable lighting scenes for recurring visual tasks themselves. Precisely prepared lighting quality can now be called up at a single press of a button, and the manual modification of existing lighting scenes is possible at any time. Lighting scenes once set can be very simply adapted if required. As Zumtobel uses an easily understandable language of icons for all control elements, their buttons and their displays, using the various control options successively and in combination is admirably simple.



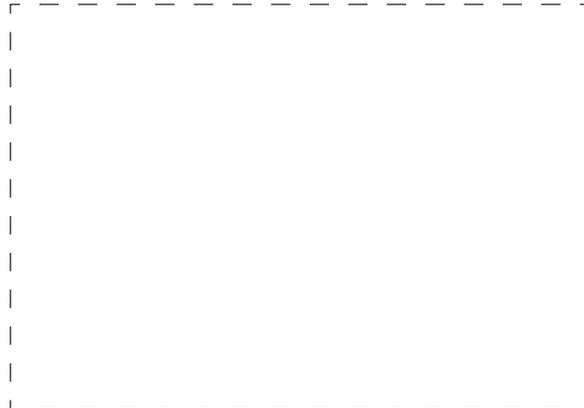
**Break scene**

A large indirect light component creates a pleasant atmosphere for discussion. The automatically tilted upper windows let fresh air flow into the room.



Personal scenes

Users can create and save their personal scenes, and can call them up at any time via a control unit.



## Intuitive and convenient

Lighting scenes at the touch of a button

**LUXMATE CIRCLE** As small as a standard momentary-action light switch, it achieves a great deal more: three individually dimmable lighting scenes are ready at the press of a button, and even blinds can be integrated. Alternatively, there is a multifunction switch for Tunable White luminaires. In this version, the convenient control unit also controls the colour temperature.



**enocan wireless touch switch** The wireless touch switch can be mounted well to any smooth surface. Data is transmitted wirelessly. The control unit works without batteries and is completely maintenance free.



**LITENET incontrol** Working at a computer screen is part of everyday life, and so controlling light using browser-based software should be second nature. "Lighting scenes by a mouse click" make lighting convenience perfect.



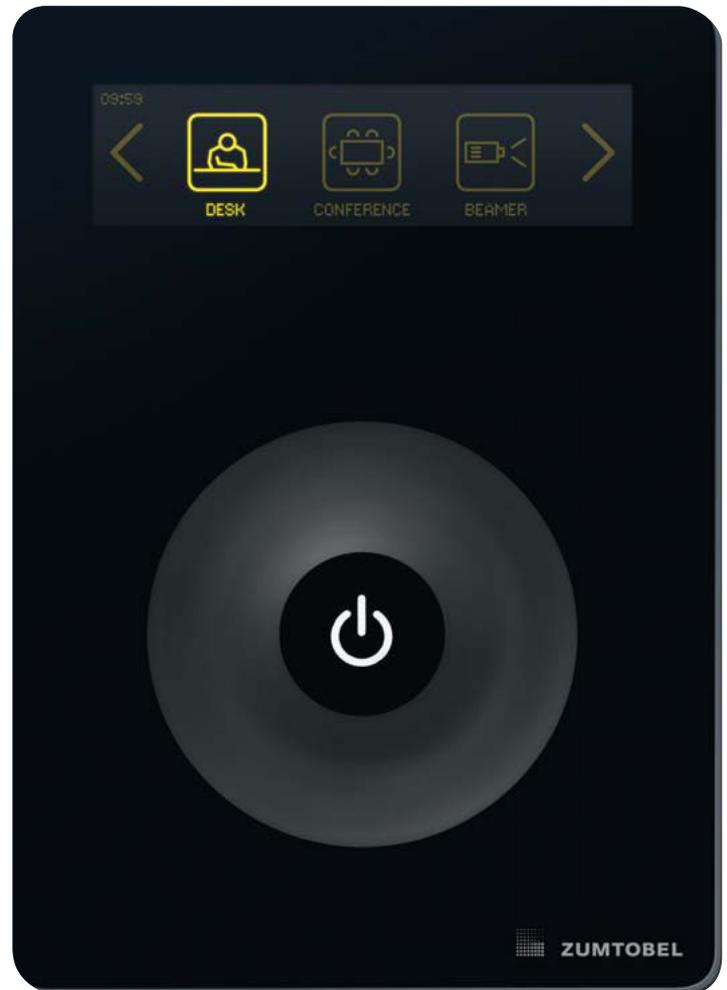
## LUXMATE CIRIA

Design by Matteo Thun



**LUXMATE CIRIA** The high-end unit assumes the minimalist design language of modern communication media, thereby combining convenient operation with functional diversity in a fascinatingly simple way.

**An all-round talent** CIRIA is a multi-service unit. As well as light, all services in the rooms such as blinds, windows and projection screens can be conveniently controlled. Individual setting is possible at any time via the navigation buttons. And the best thing about it: no complicated instruction manuals or training is needed. The user discovers the diverse possibilities of CIRIA simply by testing.



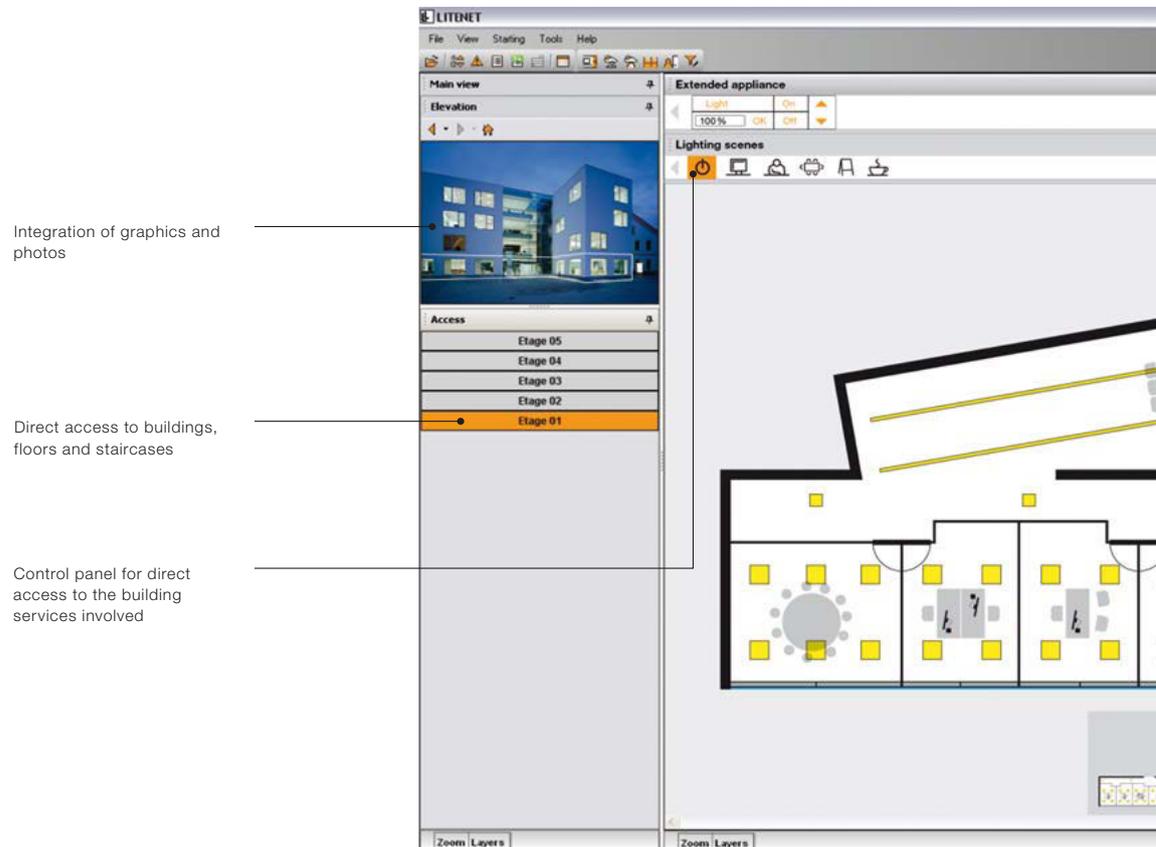
Original size



With its compact design, CIRIA can be installed in one single euro wiring box in accordance with DIN 0606 with at least 50 mm recess depth.

# LITENET graphics

The control centre for facility management

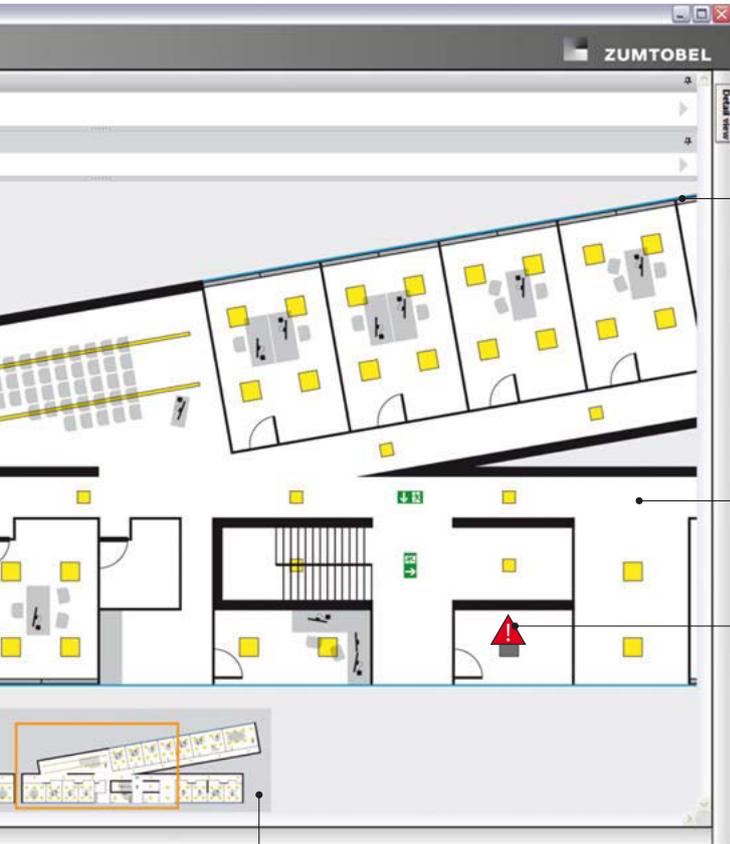


**Visualisation at the highest level** “The bigger the building, the more time facility managers have to spend on routine monitoring and checks”. This statement has been rendered invalid with LITENET graphics, because a central control centre now bundles all this information together and displays the current status on the screen. The central software tool also allows extensive intervention in the system and emergency lighting tests – from any location in the building.

Zumtobel has enriched the software with design capability for simple orientation in very large or complex buildings. With LITENET graphics advanced, visualisation comes very near to reality. The importing of CAD files enables the person responsible for maintenance to navigate intuitively through the building and to rapidly localise defects.

## LITENET graphics: facts

- Central visualisation, monitoring and control of a LITENET system
- Animated status display for luminaires, blinds and windows
- Rapid localisation of defects
- Stepless zoom with very good image resolution for detailed display
- Integration of images, graphics and CAD plans
- Layers can be displayed or hidden
- Personalised interface for freely positionable partial windows
- Package sizes of 500, 2,000 and up to 10,000 visualised output actuators



Animated status display for luminaires, blinds and windows

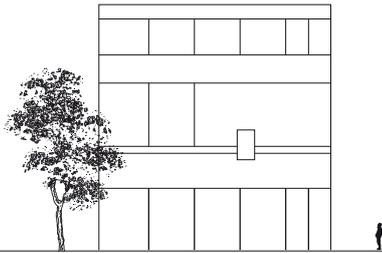
Integration of CAD plans as vector graphics for extremely well-focused image display

Visualised alarms

Stepless zooming and navigating in all directions

# LITENET solution packages

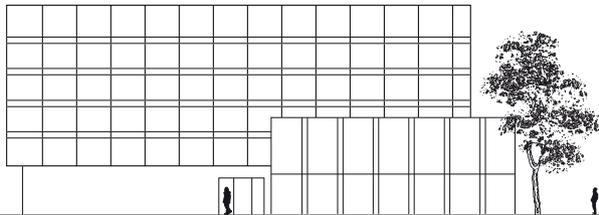
Systems for 500 to 10,000 addresses



## LITENET economy

### Solution package for up to 500 output addresses

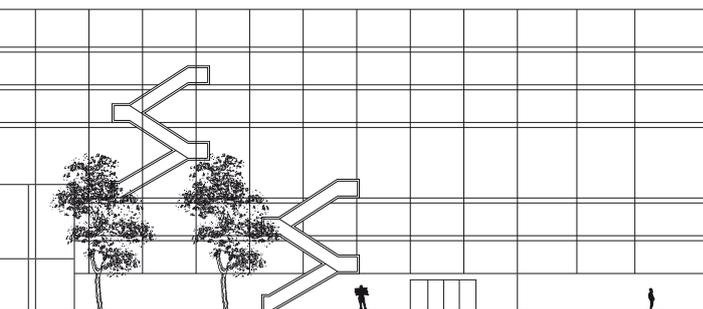
The smallest LUXMATE LITENET package is perfect for smaller applications which require only 500 output addresses and do not need the entire range of functions available. Hence no LITENET server is needed.



## LITENET compact

### Solution package for up to 2,000 output addresses

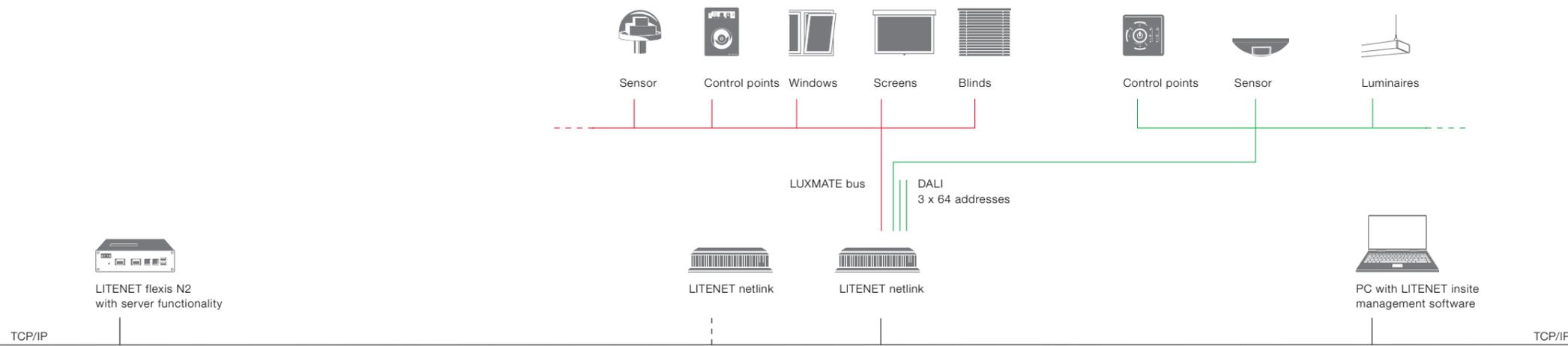
Like a compact mid-range car, LUXMATE LITENET compact offers a decent level of convenience without the need to splash out on all the options available. This solution, which is geared towards medium-sized applications, also needs no LITENET server.



## LITENET flexible

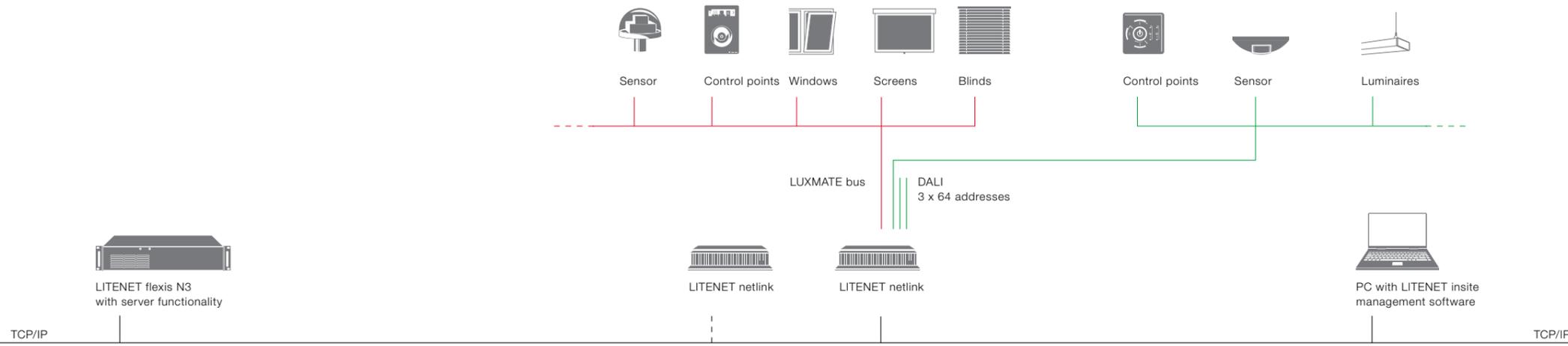
### Solution package for up to 10,000 output addresses

One central LITENET server is enough to achieve maximum flexibility and integrate 10,000 output addresses (or more upon request). This high-end expansion level enables separate IT and lighting management structures within one building and includes the full range of LUXMATE LITENET features.



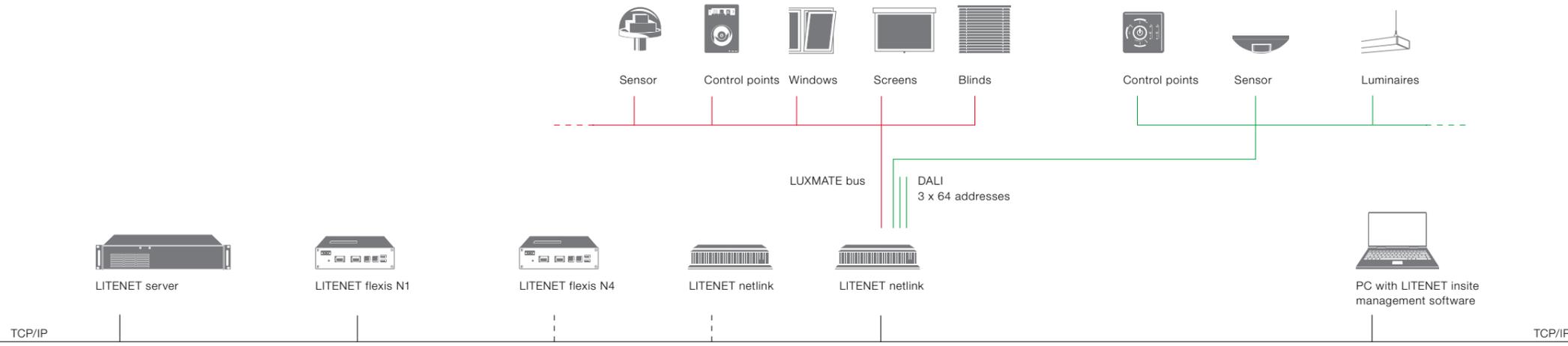
**LITENET economy – facts**

- up to 500 output addresses
- no server required
- minimum installation and commissioning effort
- LITENET flexis N2 without rotating parts (wear-free)
- optional LITENET incontrol operating software



**LITENET compact – facts**

- up to 2,000 output addresses
- no server required
- minimum installation and commissioning effort
- LITENET flexis N3 in 19" rack
- fail-safe thanks to RAID1 (disk mirroring)
- optional LITENET incontrol operating software
- BACnet and OPC open interfaces



**LITENET flexible – facts**

- up to 10,000 output addresses (more upon request)
- flexible, radially arranged network layout for any system topology
- can be cascaded as required
- LITENET flexis N1 installed in switch cabinet
- LITENET server extremely fail-safe thanks to RAID1 (disk mirroring)
- optional LITENET incontrol operating software
- BACnet and OPC open interfaces

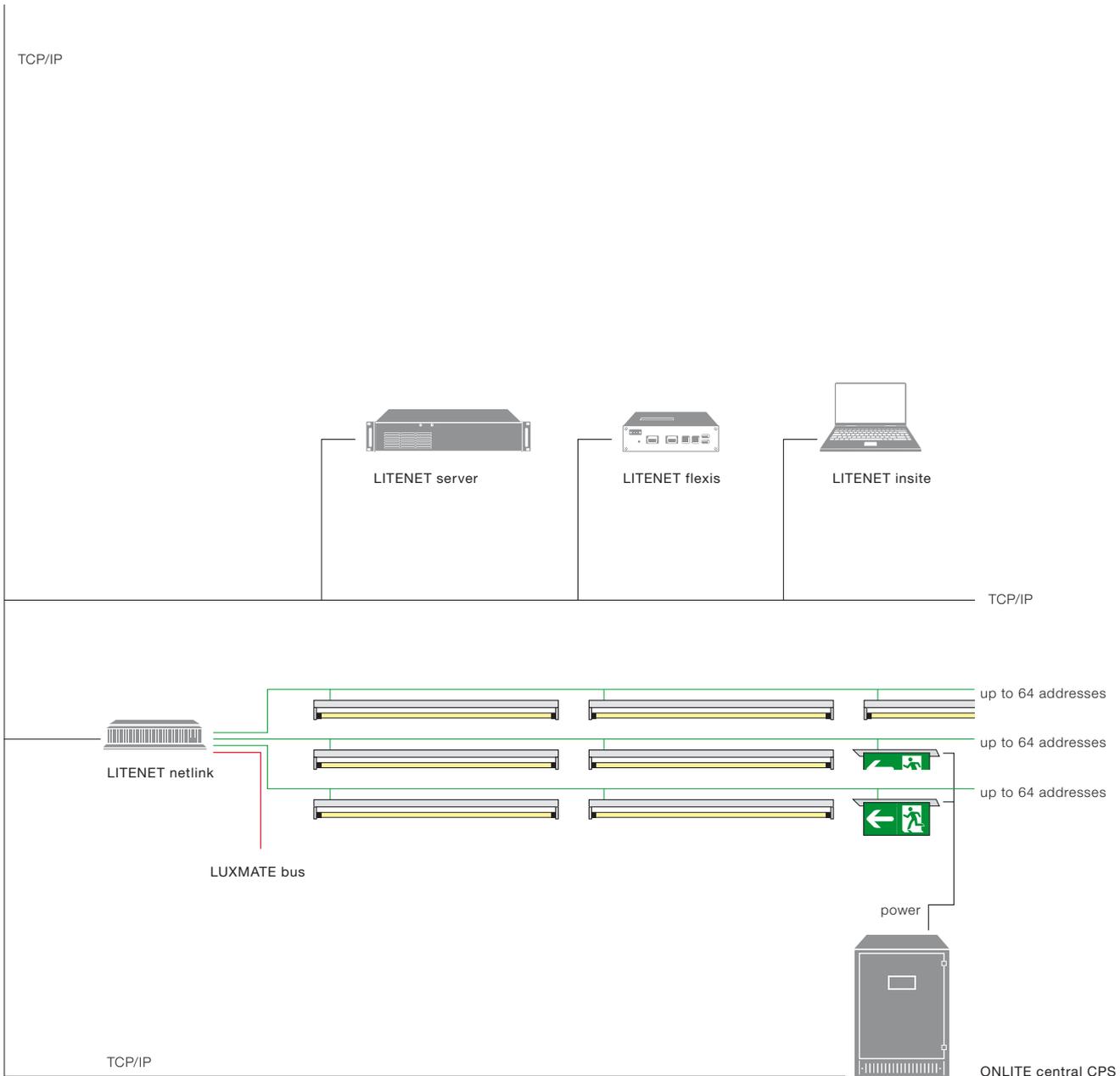
# LITENET + ONLITE

Lighting and emergency lighting go hand in hand

The LUXMATE LITENET leading lighting system and ONLITE CPS, with central battery system, come together to make a high performance duo: LITENET assumes automatic monitoring of the emergency luminaires, and the CPS central battery system takes on the role of supply in case of emergency. In this way ambient lighting and emergency lighting merge to become one functional unit. The facility manager experiences LITENET and ONLITE as a consistent system. Other emergency lighting options available include: separate battery monitoring, ONLITE LPS group battery, and integration of diesel generators.



**ONLITE ARTSIGN**  
LED escape sign luminaire  
Design: Matteo Thun



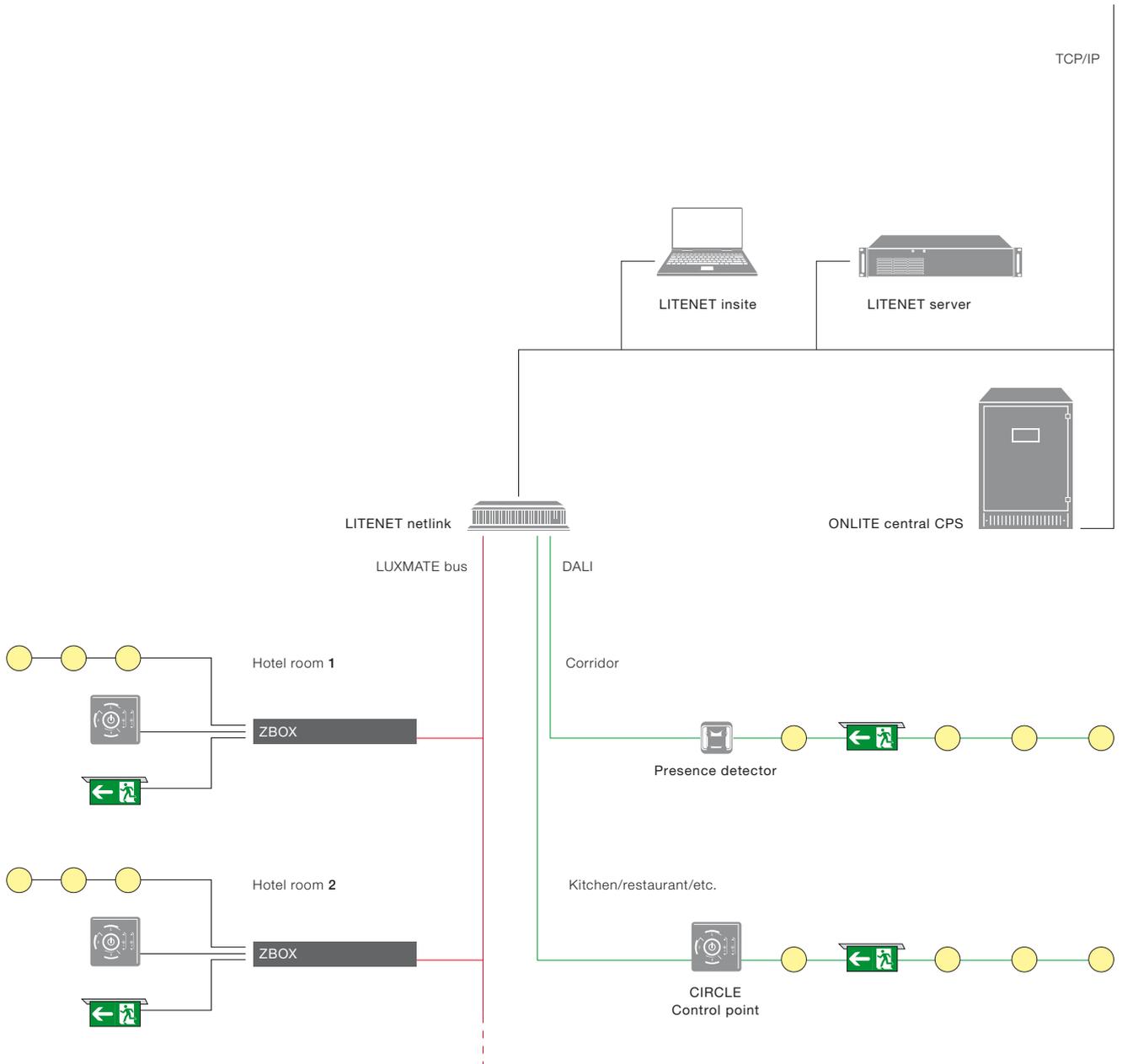
# LITENET + ZBOX

The integrated lighting solution for hotel and wellness



**ZBOX**  
Plug & Play lighting control system  
for hotels and wellness

LUXMATE LITENET shows its hospitable side in hotels and wellness areas. The fully integrated ZBOX is the perfect control unit for hotel rooms. The result of the intelligent LITENET and ZBOX teamwork has a wide variety of possibilities for both hotel guests and building technicians. Lighting scenes can be freely defined, called up by a single press of a button and individually adapted. Functional and system tests for the emergency lighting required by law are triggered automatically and recorded in a log.



## ZUMTOBEL service

Zumtobel is at your side through all the phases in a building's life

### Buildings and their life cycles

The purpose of building management is to ensure that the value of an asset is exploited to the full in the sense of meeting the requirements in question. Regular maintenance and optimisation are needed to make sure that this goal is achieved despite changing requirements and underlying conditions. Zumtobel lighting solution consultants, service engineers and project managers from 75 offices in 57 countries look after lighting systems belonging to an extremely wide variety of customers through all the phases of their buildings' lives.

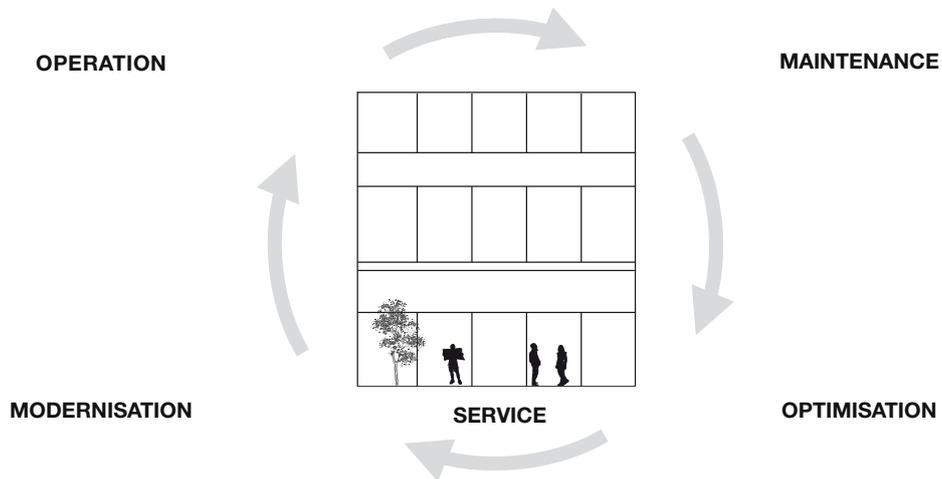


### DESIGN & DEVELOPMENT

Zumtobel lighting solution and system consultants are specialists in areas such as lighting, lighting control systems, emergency lighting and system integration. They have the necessary expertise and experience to integrate cutting-edge lighting solutions, including lighting control systems and automation engineering, as part of a building automation strategy to obtain best performance.

### CONSTRUCTION & COMMISSIONING

Zumtobel's Project Management plans and organises all the resources needed to complete customers' solutions on time and on budget and to guarantee performance as well as quality. Zumtobel deploys regularly trained service engineers and project managers equipped with state-of-the-art equipment to ensure trouble-free commissioning and efficient operation.



### OPERATION

Day-to-day operations demand fast, effective solutions. Zumtobel offers every kind of dependable support, ranging from telephone support and remote maintenance through to on-site callouts. Customers can be given intensive technical training to enable them to operate the system independently and more effectively.

### MAINTENANCE

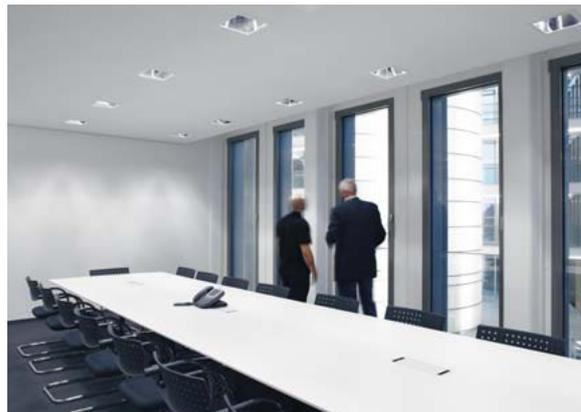
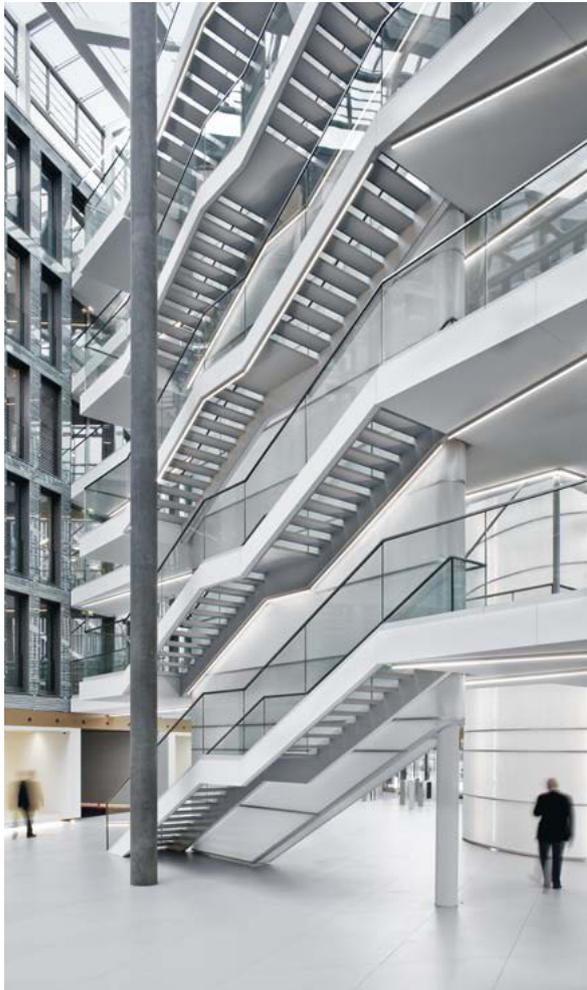
Quality assurance for a lighting system involves regular, professional maintenance. This guarantees that a lighting solution will continue to operate reliably and efficiently for many years. Zumtobel's maintenance contracts make provision for various service level agreements and are backed up by a transparent package of services.

### OPTIMISATION

Circumstances and lighting conditions change over the years. We offer various types of maintenance and optimisation measures to ensure continued maximum energy savings with excellent lighting quality and this work is completed without disrupting normal on-going operations.

### MODERNISATION

Zumtobel is a professional partner when it comes to any questions regarding modernisation and lighting refurbishments: from design through to project support and commissioning. You can be sure of achieving a perfect blend of lighting quality and energy efficiency.



## Light for Office and Education

VHV, Hannover / DE

**Architects** BKSP Grabau Leiber Obermann & Partner,  
Hannover/D

**Lighting design** Lumen3, Munich/D

**Lighting management** LUXMATE LITENET flexible

- 1 x LITENET server
- 9 x LITENET flexis
- 1 x daylight sensor

**Lighting solution**

- 1,000 LIGHT FIELDS free-standing luminaires
- 1,100 PANOS Q downlights
- 400 FT moisture-proof luminaires
- 2,000 metres of SLOTLIGHT II light line
- 700 metres of TECTON continuous-row lighting system
- 360 metres of LINARIA light line

- 4,000 blinds controlled by LITENET on the basis of daylight

For employees of Hannoverscher Lebensversicherung AG, the workplace of the future has already become reality. Wide-area fenestration enables outdoor and indoor spaces to blend together. The lighting solution for the 8,000 m<sup>2</sup> office building is part of a sustainable energy concept that integrates soil sensors and heat pumps among other factors. Lighting and blinds are centrally controlled via LUXMATE LITENET. The illuminance level of the luminaires providing ambient and task area lighting adapts automatically according to the natural course of daylight, in perfect combination with the blinds. This results in consistently perfect lighting quality, with simultaneous energy savings of up to 60 %.



## Light for Hotel and Wellness

Hotel Budersand, Hörnum / DE

**Architect** dko Architekten, Patrik Dierks, Berlin/D

**Lighting design** Hamburg Design, Harry Mayer, Hamburg/D

**Lighting management** LUXMATE LITENET compact + ZBOX

- 1 x LITENET flexis N3
- 102 ZBOX units
- 1 x ONLITE central CPS emergency lighting central battery

### Lighting solution

- 64 RESCLITE LED emergency luminaires
- 78 ARTSIGN emergency luminaires
- 55 ECOSIGN emergency luminaires
- 67 SCUBA moisture-proof luminaires

Gentle, clear. The light on the island of Sylt is truly unique, and in the new five-star superior hotel is used to create a highly extravagant setting. A permanent discourse with nature is always guaranteed thanks to countless panoramic windows. LUXMATE LITENET ensures perfect, daylight-based lighting for the open spaces, the restaurant, the library and the 1,000 m<sup>2</sup> spa area. Light sensors determine the required quantity of light and control the connected luminaires. The ZBOX plug and play system in the rooms and suites makes guests feel truly welcome. The lighting scenes required can be simply called up via the icon keys of the CIRCLE control point. ZBOX then conjures up perfect light for watching television, reading, taking a bath or just relaxing.

# Future-proof system topology

## Open standards for openness to the future

### DALI for light



Because of individual addressability, DALI provides the basis for affordable axial flexibility. In the past, DALI luminaires were more expensive to buy because only dimmable versions were available. With "dimming on demand" luminaires, Zumtobel now offers the first switched DALI luminaires at a significantly lower price.

This makes it possible to keep investment costs down during the construction phase, but at the same time ensure readiness for future lighting requirements. From lighting scenes through to daylight-based lighting control systems, anything is possible.

### Ethernet and building automation

There is a marked trend in building automation towards the use of Ethernet and TCP/IP as transport media and protocols for all the services in a building. The standard TCP/IP Internet protocol is taking over in more and more building automation applications as the backbone and, where necessary, right down to field level.

The still widely encountered fieldbus is being increasingly superseded. Ethernet cabling is already one of an electrician's everyday tasks. In the future, office solutions and building automation will increasingly converge and use a shared network. Technically well-engineered security precautions ensure that data traffic is adequately protected with this overarching integration.

#### Advantages of Ethernet

- Good scalability
- Flexible features
- Optimum updating
- Optimum diagnostic capabilities
- Good investment security

### Software upgrades instead of conversion work

LUXMATE LITENET uses the hardware infrastructure as a stable basis. New functions are obtained by software upgrades. Simple updates and on demand functions ensure absolute peace of mind when it comes to investment and reliability of design.

### System integration using standard interfaces

There are two main ways of ensuring that all systems in a building (lighting, heating, ventilation, air conditioning, security system, lifts, access control, etc.) work together properly and do not interfere with each other: running everything through one system, or installing a specific system for each service in order to achieve optimum functionality in every area. Zumtobel adopts the best detailed solution by offering the best interfaces with other building services and higher-level systems (building services management system) in the form of BACnet<sup>1)</sup> and OPC<sup>2)</sup> standardised interfaces between fieldbuses and Windows applications in order to achieve seamless system integration.



<sup>1)</sup> Building Automation and Control Network, ISO EN standardised language for building automation



<sup>2)</sup> Object Linking and Embedding for Process Control

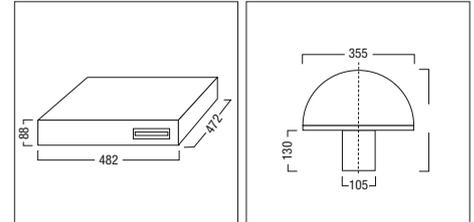
**Room automation, basic package**



- Basic package for versatile LITENET system
- Includes LITENET insite single-user management software
- Includes LITENET server hardware and server software
- Includes LM-TLM daylight measuring head

	Order no.
500 LUXMATE outputs LITENET basis set economy	22 185 233
2000 LUXMATE outputs LITENET basis set compact	22 185 232
10,000 LUXMATE outputs LITENET basis set flexible	22 185 231

If using a LITENET basic set flexible, the LITENET flexis N1 automation computer must be ordered separately.

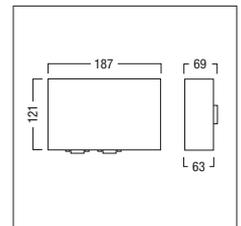


**Room automation controller 1000**



- Network-compatible automation processor for lighting and blinds for up to 1000 LUXMATE outputs
- Installed on EN rail 35 mm
- Disabled functions enabled via flex-credits, if required
- Credits can be withdrawn at any time and used for other functions in the LITENET installation

	L/W/H	Order no.
Room automation system LITENET flexis N1	187/121/63	22 161 749
SUP24VDC/1,5 A 24 V power supply	70/90/59	22 161 814

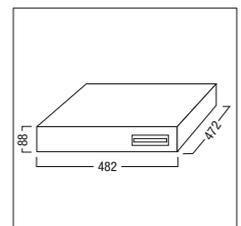


**Room automation server**



- Network server for higher-order management of installation, user and device data of a LITENET installation
- Central logging of consumption data, alarm lists, log files and emergency lighting test books
- Communication system enables information management by email or fax
- RAID1 fail-safe reliability
- Optional OPC or BACnet interfaces
- Remote maintenance access
- Case suitable for 19" rack-mounting or as desktop unit
- No basic software

	L/W/H	Order no.
Room automation system LITENET server	482/472/88	22 154 459



## Automation

### Room automation, Flexis N2



- Network-compatible automation processor for lighting and blinds for up to 500 LUXMATE outputs
- Includes server components (software); no server (hardware) required
- Includes LITENET insite single-user management software
- Installed on EN rail 35 mm
- Optional PC control via LITENET incontrol
- Disabled functions enabled via flex-credits, if required
- Credits can be withdrawn at any time and used for other functions in the LITENET installation

Room automation system  
LITENET flexis N2

L/W/H

Order no.

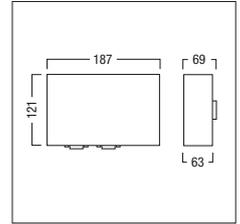
187/121/63

22 154 456

SUP24VDC/1,5 A 24 V power supply

70/90/59

22 161 814



### Room automation, Flexis N3



- Network-compatible automation processor for lighting and blinds for up to 2000 LUXMATE outputs
- RAID1 fail-safe reliability
- Includes server components (software); no server (hardware) required
- Includes LITENET insite single-user management software
- Remote maintenance access
- Case suitable for 19" rack-mounting or as desktop unit
- Optional PC control via LITENET incontrol
- Optional OPC or BACnet interfaces
- Disabled functions enabled via flex-credits, if required
- Credits can be withdrawn at any time and used for other functions in the LITENET installation

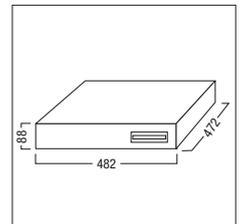
LITENET flexis N3

L/W/H

Order no.

482/472/88

22 154 644



### Credits



- Inactive LITENET functions can be enabled as required via Flex-Credits (management software), e.g. daylight-based automation, enabling DOD luminaires, emergency lighting visualisation etc.
- Credits can be withdrawn at any time and used for other functions in the LITENET installation

LITENET flex-credit

Order no.

22 154 449

**Room automation LITENET SOFTWARE only**



- Software for installing LITENET automation components on the customer's own hardware
- All LITENET flexis Nx and LITENET server automation components available as software only. Can run on all standard operating systems (precise requirements are given in the datasheets).

	Order no.
LITENET flexis N1 Software for up to 1000 LUXMATE outputs	22 185 272
LITENET flexis N2 Software for up to 500 LUXMATE outputs	22 185 273
LITENET flexis N3 Software for up to 2000 LUXMATE outputs	22 185 274
LITENET flexis N4 Software for up to 2500 LUXMATE outputs	22 185 275
LITENET server Software	22 185 276



**Software (planning)**



- Offline software (freeware) for planning a LITENET installation
- Step-by-step creation of building structure
- Easy configuration and parameterisation of installation features via predefined room profiles
- The design result is a LITENET project file, which is imported into the installation by the service engineer

LITENET inbuild (Freeware)	22 154 442
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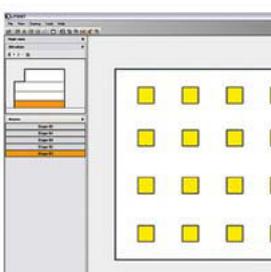
**Management software**



- Single-user licence for monitoring, configuration and central control of a LITENET installation
- Display of fault signals
- Analysis and installation documentation
- Installation on any workstation within the network

LITENET insite	22 154 444
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**Software (schematic graphical user interface)**



- Schematic visualisation (LITENET Graphics basic)
- Central visualisation, monitoring and control of a LITENET installation
- Continuous zoom for flexible navigation
- Makes it quick and easy to locate problems
- Integral editor for customizing building views
- Licence packages for 500/2000/10,000 addresses

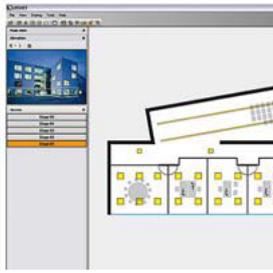
LITENET graphics basic 10000	22 162 200
LITENET graphics basic 2000	22 162 199
LITENET graphics basic 500	22 161 894

Design service available on request for designing the graphical visualization interface.

## Operation

### Software (authentic graphical user interface)

Order no.



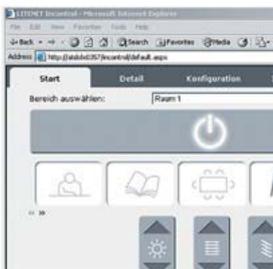
- Diagrams, photos and CAD drawings provide excellent visualization of real-life situation
- Central visualisation, monitoring and control of a LITENET installation
- Continuous zoom for flexible navigation
- Integral layer manager
- Makes it quick and easy to locate problems
- Integral editor for customizing building views
- Licence packages for 500/2000/10,000 addresses

LITENET graphics advanced 10000	22 162 203
LITENET graphics advanced 2000	22 162 202
LITENET graphics advanced 500	22 162 201

Design service available on request for designing the graphical visualization interface.

### Operating software (running on network PC)

Order no.



- Browser software for intuitive control of LUXMATE areas
- Up to 20 scenes can be called up
- Interface design (Skin) can be changed
- For PC and MAC
- Installation on LITENET server
- Licence packages for 50/200/500/1000 users

LITENET incontrol 1000	22 154 457
LITENET incontrol 50	22 154 445
LITENET incontrol 200	22 154 447
LITENET incontrol 500	22 154 448

### LM-CIRIA wall-recessed control point

L/W/H

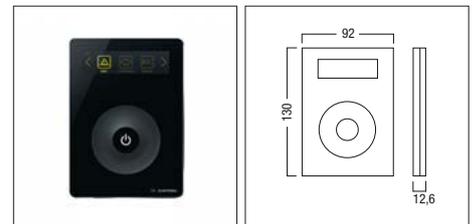
Order no.



- Control panel for intuitive control and programming of LUXMATE rooms
- Up to 20 scenes can be configured and called up
- Can be used to operate up to 10 devices (lighting, blinds etc.)
- User-configurable display (scene icons, text etc.)
- Fully enclosed housing with black-and-white glass front and plastic surround in black, white and chrome
- Operated by touching the glass surface of the OLED display (capacitive sensor); contains dimming ring and ON-OFF button
- Installed in single Euro box to DIN 0606 of minimum depth 50 mm

#### Control device

LM-CIRIA BK black	130/92/50	22 162 348
LM-CIRIA WH white	130/92/50	22 162 349

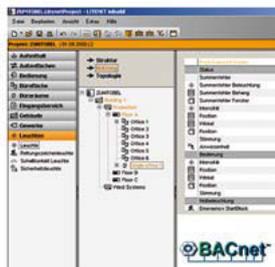


[...] Shared properties BACnet and OPC

- Software interface between LITENET and a building services control system
- Definition and transfer of data points
- Transfer of information and functions relating to system operation, status display, display of alarms and events and emergency lighting integration

**BACnet**

Order no.



- [...]
- Requirement for LITENET integration using BACnet standard

LITENET BACnet 500	22 161 690
LITENET BACnet 1000	22 161 692
LITENET BACnet 3000	22 161 691

**OPC**

Order no.



- [...]
- Must be present in order to integrate LITENET via the OPC standard

LITENET OPC 500	22 154 685
LITENET OPC 1000	22 154 686
LITENET OPC 3000	22 154 687

**Touchpanel**

Order no.



- Software licence for interface to touch-panel made by another manufacturer
- Ethernet (TCP/IP) communication, text-based
- 1 licence per installation
- Max. 5 touch-panels per Flexis controller

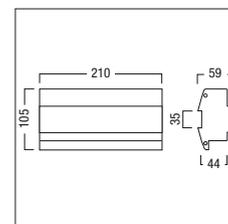
LITENET TP-NetCom	22 154 716
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**DALI Gateway, switch cabinet**

L/W/H DB Modules Order no.

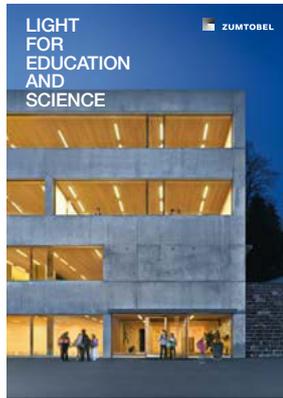
- For individual control of up to 3 x 64 DALI-compatible dimmable ballasts that can be assigned any LUXMATE address
- With integral DALI power supplies
- With integral LM-BUS power supply
- Ethernet (TCP/IP) network connection
- Installed on EN rail 35 mm
- For connecting an ED-SENS or ED-EYE sensor

LITENET netlink	210/105/59	12	22 154 451
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zumtobel.com/office



zumtobel.com/education



zumtobel.com/shop



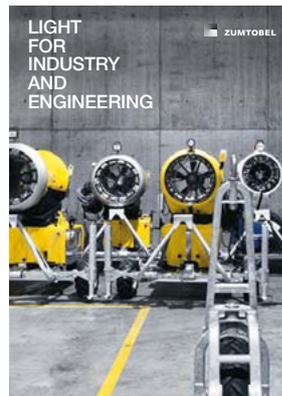
zumtobel.com/hotel



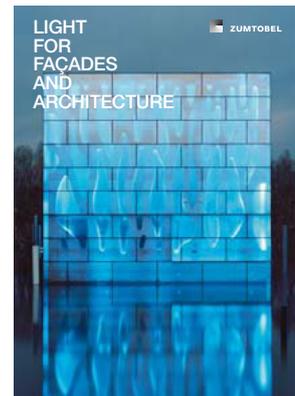
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zumtobel.com/healthcare



zumtobel.com/industry



zumtobel.com/facade

**Zumtobel is the internationally leading supplier of integral lighting solutions for professional interior and exterior lighting applications.**

- Offices and Communication
- Education and Science
- Presentation and Retail
- Hotel and Wellness
- Art and Culture
- Health and Care
- Industry and Engineering
- Façades and Architecture

We provide unique customer benefits by integrating technology, design, emotion and energy efficiency. Under the Humanergy Balance concept, we combine the best possible ergonomic lighting quality for an individual's well-being with the responsible use of energy resources. The company's own sales organisations in twenty countries, as well as commercial agencies in fifty other countries, form an international network of experts and design partners providing professional lighting consulting, design assistance and comprehensive services.

**Lighting and sustainability**

In line with our corporate philosophy "We want to use light to create worlds of experience, make work easier and improve communications and safety while remaining fully aware of our responsibility to the environment", Zumtobel offers energy-efficient high-quality products, while at the same time making sure that our production processes based on the considerate use of resources are environmentally compatible.

zumtobel.com/sustainability



**Top quality – with a five-year guarantee.**

As a globally leading luminaire manufacturer, Zumtobel provides a five-year guarantee for its complete product range with effect from 1 April 2010.

zumtobel.com/guarantee

Order no. 04 797 677-EN 06/12 © Zumtobel Lighting GmbH  
 Technical data was correct at time of going to press.

We reserve the right to make technical changes without notice. Please contact your local sales office for further information. For the sake of the environment: Luxo Light is chlorine-free paper from sustainably managed forests and certified sources.





Track and spots



Modular lighting systems



Downlights



Recessed luminaires



Surface-mounted and pendant luminaires



Free-standing and wall luminaires



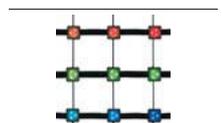
Continuous-row system and individual batten luminaires



High-bay luminaires and floodlight reflector systems



Luminaires with extra protection



Facade, media and outdoor luminaires



Lighting management system



Emergency lighting



Medical supply systems

### United Kingdom

Zumtobel Lighting Ltd.  
Chiltern Park  
Chiltern Hill, Chalfont St. Peter  
Buckinghamshire SL9 9FG  
T +44/(0)1753 482 650  
F +44/(0)1753 480 350  
uksales@zumtobel.com  
www.zumtobel.co.uk

### USA and Canada

Zumtobel Lighting Inc.  
17-09 Zink Place, Unit 7  
Fair Lawn, NJ 07410  
3300 Route 9W  
Highland, NY 12528  
T +1/(0)845/691 6262  
F +1/(0)845/691 6289  
zli.us@zumtobel.com  
www.zumtobel.us

### Australia and New Zealand

Zumtobel Lighting Pty Ltd  
333 Pacific Highway  
North Sydney, NSW 2060  
T +61/(2)8913 5000  
F +61/(2)8913 5001  
info@zumtobel.com.au  
www.zumtobel.com.au

### China

Zumtobel Lighting China  
Shanghai office  
Room 101,  
No 192 YIHONG Technology Park  
Tianlin Road, Xuhui District  
Shanghai City, 200233, P.R. China  
T +86/(21) 6375 6262  
F +86/(21) 6375 6285  
sales.cn@zumtobel.com  
www.zumtobel.cn

### Hong Kong

Zumtobel Lighting Hong Kong  
Unit 4319-20, Level 43,  
Tower 1, Metroplaza,  
223 Hing Fong Road,  
Kwai Fong, N.T.  
T +852/(0)2503 0466  
F +852/(0)2503 0177  
info.hk@zumtobel.com

### India

Zumtobel Lighting GmbH  
A 274, 1st Floor,  
Defence Colony,  
110024 New Delhi  
T +91/98 102 19 531  
enquiries.india@zumtobel.com

### Singapore

Zumtobel Lighting Southeast Asia  
5 Kaki Bukit Crescent,  
#04-02 Koyotech Building  
416238 Singapore  
T +65 6844 5800  
F +65 6745 7707  
info.sg@zumtobel.com

### United Arab Emirates

Zumtobel Lighting GmbH (Branch)  
Dubai Airport Free Zone,  
Building 6W, B Block, 233  
PO Box 54302  
Dubai  
T +971/(0)4 299 3530  
F +971/(0)4 299 3531  
info@zumtobeluae.ae

### Romania

Zumtobel Lighting Romania SRL  
Tipografilor 11-15,  
S-Park Office, Wing A1-A2  
013714 Bucharest  
T +40 312253801  
F +40 312253804  
welcome.ro@zumtobel.com  
www.zumtobel.com

### Hungary

Zumtobel Lighting Kft  
Váci út 49  
1134 Budapest  
T +36/(1) 35 00 828  
F +36/(1) 35 00 829  
welcome@zumtobel.hu  
www.zumtobel.hu

### Croatia, Bosnia and Herzegovina

Zumtobel Licht d.o.o.  
Radnička cesta 80 – Zagrebtower  
10000 Zagreb  
T +385/(1) 64 04 080  
F +385/(1) 64 04 090  
welcome@zumtobel.hr  
welcome.ba@zumtobel.com

### Serbia

Zumtobel Licht d.o.o.  
Karadjordjeva 2-4  
Beton Hala  
11000 Belgrade  
T +381/(0)11 65 57 657  
F +381/(0)11 65 57 658  
welcome@zumtobel.rs

### Czech Republic and Slovak Republic

Zumtobel Lighting s.r.o.  
Jankovcova 2  
Praha 7  
170 00 Praha  
T +420/(2) 66 782 200  
F +420/(2) 66 782 201  
welcome@zumtobel.cz  
www.zumtobel.cz

### Poland

Zumtobel Licht GmbH Sp.z.o.o.  
Platinum III  
ul. Wołoska 9a  
02-583 Warszawa  
T +48/(22) 856 74 31  
F +48/(22) 856 74 32  
welcome@zumtobel.pl  
www.zumtobel.pl

### Slovenia

Zumtobel Licht d.o.o.  
Štukljeva cesta 46  
1000 Ljubljana  
T +386/(1) 5609 820  
F +386/(1) 5609 866  
welcome@zumtobel.si  
www.zumtobel.si

### Russia

Zumtobel Lighting GmbH  
Official Representative Office  
Skakovaya Str. 17  
Bld. No 1, Office 1104  
125040 Moscow  
T +7/(495) 945 36 33  
F +7/(495) 945 16 94  
info-russia@zumtobel.com  
www.zumtobel.ru

### Norway

Zumtobel Belysning  
Hoffsveien 4  
Postboks 1025 Hoff  
0218 Oslo  
T +47 22 06 50 50  
F +47 22 06 50 52  
firmapost@zumtobel.com  
www.zumtobel.no

### Sweden

Zumtobel Belysning  
Birger Jarlsgatan 57  
113 56 Stockholm  
T +46 8 26 26 50  
F +46 8 26 56 05  
info.se@zumtobel.com  
www.zumtobel.se

### Denmark

Light Makers AS  
Indiavej 1  
2100 København/Copenhagen  
T +45 35 43 7000  
F +45 35 43 54 54  
lm.sales@lightmakers.dk  
www.lightmakers.dk

### Headquarters

Zumtobel Lighting GmbH  
Schweizer Strasse 30  
Postfach 72  
6851 Dornbirn, AUSTRIA  
T +43/(0)5572/390-0  
F +43/(0)5572/22 826  
info@zumtobel.info

Zumtobel Licht GmbH  
Grevensmarschstrasse 74-78  
32657 Lemgo, GERMANY  
T +49/(0)5261 212-0  
F +49/(0)5261 212-7777  
info@zumtobel.de

**www.zumtobel.com**

## LUXMATE LITENET

The intelligent way to reduce energy consumption: the permanently flexible lighting management system handles small properties just as flexibly, conveniently and reliably as an entire building complex.

