

# Light Management Solutions

With Human Centric Lighting (HCL).



**DEOS.AG**

Technology for intelligent buildings

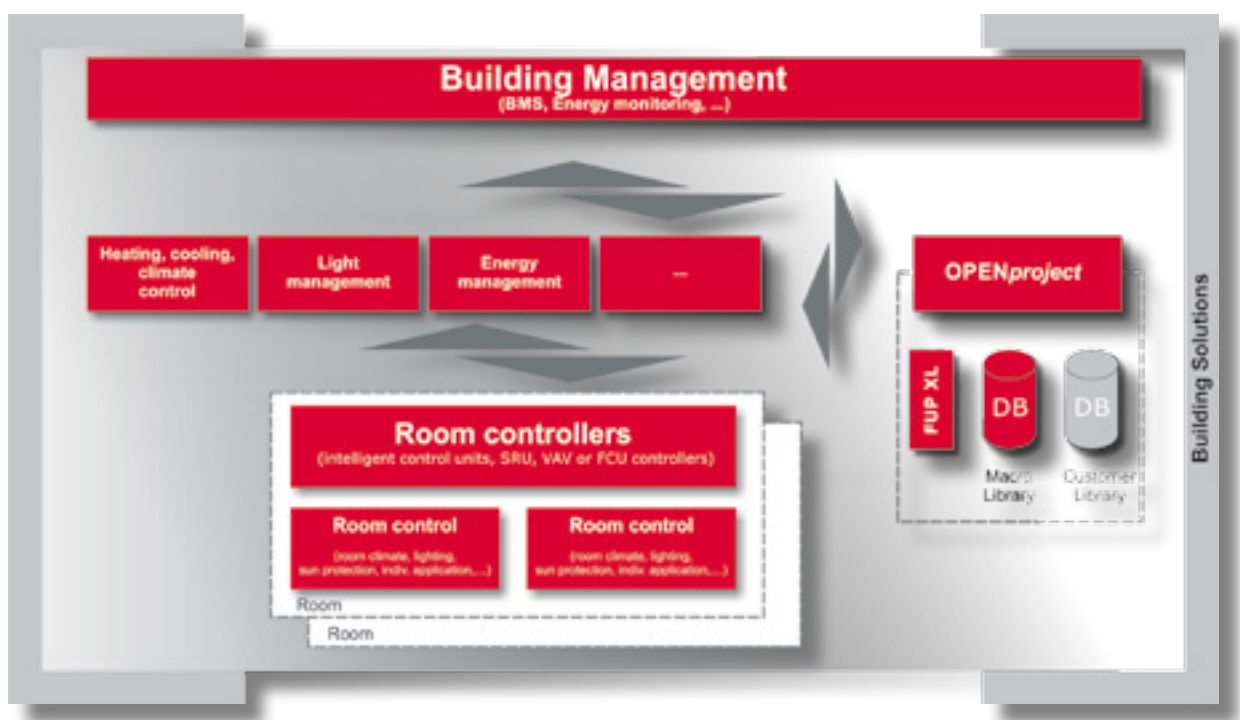
# Light Management Solutions

## Fully integrated lighting.

Light influences biological processes and thus a person's performance.

This is precisely why it is important to fully integrate **light management systems into building automation** in order to achieve an efficient and intelligent overall solution for a single room or a concert hall.

Investors, building operators and users have been calling for such a **comprehensive overall solution** for a long time now. The new DEOS AG approach — developed through practical experience — satisfies this demand and can do much more than just save energy. The **Light Management Solutions** improve employee concentration and working efficiency and simultaneously enhance well-being at the workplace.



The full integration of lighting systems into building automation promises a number of advantages. The **Light Management Solutions** combine DEOS AG solution components into a cross-sector overall solution:



### Advantages of the DEOS AG modular solution

- BACnet communication (MS/TP or IP) at the management and automation level
- Daylight control — human centric lighting for increased concentration and employee efficiency
- Flexible response to customer demands
- A perfectly matched range of products with room controllers, IO modules, user programs and programming tools developed by DEOS AG
- A wide range of interfaces, such as BACnet, KNX IP, MODBUS, DALI, DMX, etc.
- For hotels, storage and office buildings, thermal springs and recreational pools, for example

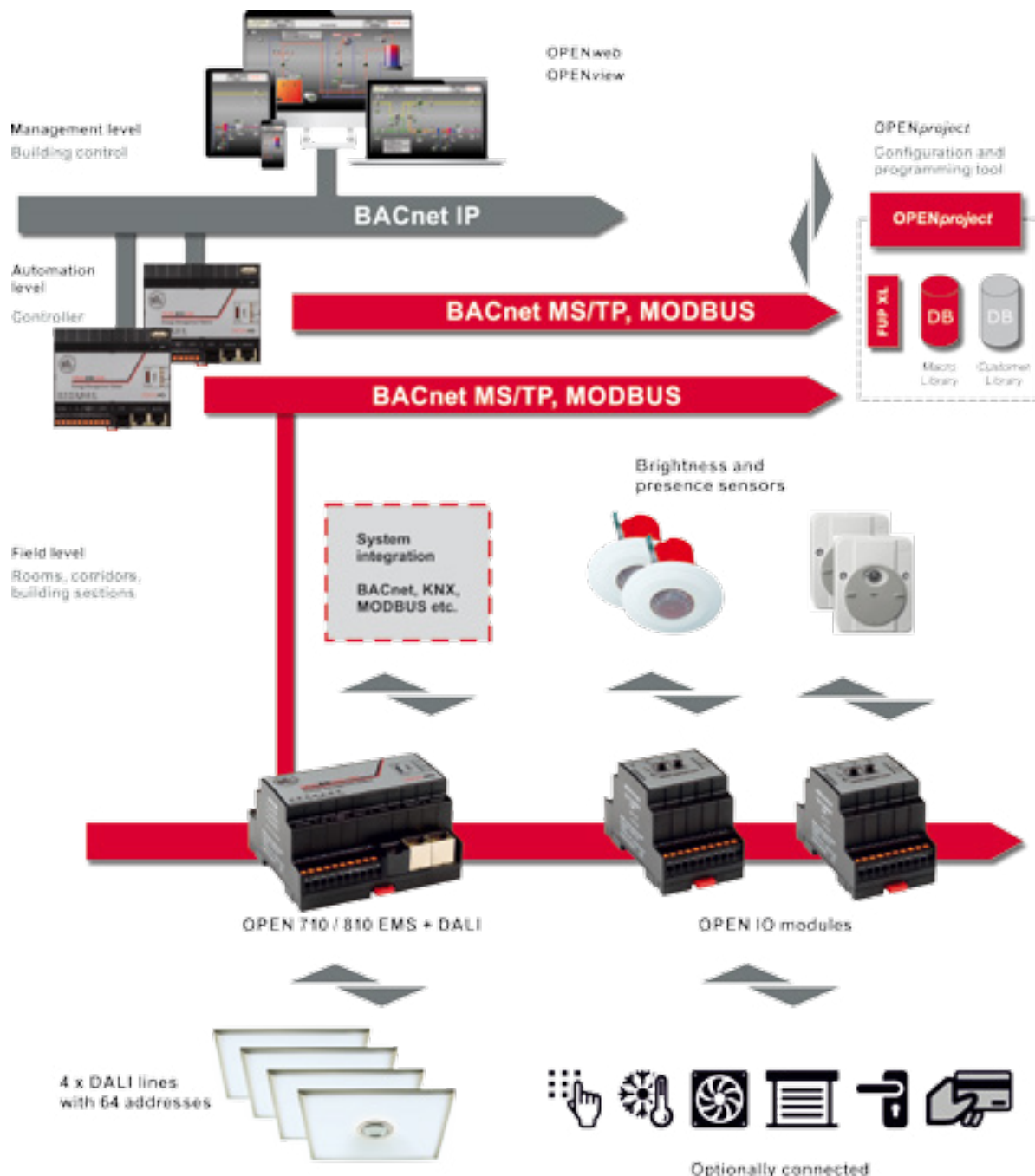
# Light Management Solutions

## System overview using DALI as an example.

DEOS AG's DDC product line — OPEN EMS — already has the idea of open system integration in its name. The wide range of supplied interfaces and protocols allow you to integrate systems from other sectors. The DEOS AG **Light Management Solutions** use the DALI model in the field along with other common open communication standards, such as BACnet, KNX, DMX, etc.

The free **OPENproject** programming tool offers straightforward and fast programming, thus allowing you to reduce your **programming efforts by up to 60%**.

DEOS AG offers this **cross-sector** networked lighting solution integrated with HVAC applications or as a stand-alone solution.



# Light Management Solutions

Reliable solution – workflow-controlled.



## Workflow-controlled – increased quality

The lights are configured using an established workflow in four easy steps.

- Step 1: Bus scan
- Step 2: Addressing
- Step 3: Group assignment (master tool)
- Step 4: Light parameterization (master tool)

## Master tool

### Easy group assignment

The master tool allows you to assign all lights to different groups in the workflow. You can also quickly make subsequent changes for each light.

### Flexible light parameter adjustment

You can apply the parameterization to all lights of a group. When changing parameters, you can also adjust each light setting.

You can carry out each parameterization step or subsequent change in the DEOS AG system during runtime.



## More than just dimming: brightness control

The room lighting is dimmed by a special control program. This ensures optimum lighting for your workspace.

The intelligent light management system also takes into consideration the incident daylight: the lighting starts slowly according to needs and is continuously regulated – it is almost unnoticeable to building users. The brightness control can also be combined with presence detectors and timer programs.



# Light Management Solutions

Comprehensive solution — function selection.



## Graphic user guidance

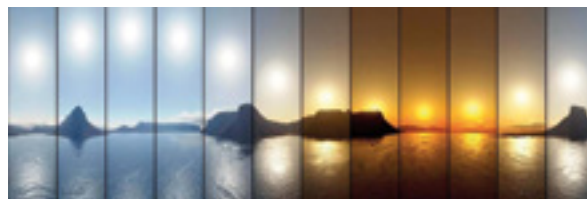
Graphics guide you through the steps for configuring the light settings while minimizing programming. The following functions are configured very intuitively by the user:

- Dimming, constant lighting, daylight switching
- Color temperature selection, color selection
- Presence detector connection
- Group assignment
- etc.

## Daylight control increases efficiency

Human Centric Lighting (HCL) increases the ability to concentrate and thus employee efficiency at the workplace.

You can manually control the lighting system as well as select the automatic function **integrated** into the **DEOS AG light management system** that simulates the day's natural rhythm.



## Optimized graphics for tablets

All used graphics are fully compatible with tablets, thus offering convenient operation. The graphics are also provided in full HD.

## OPEN DALI Controller — the multi-functional device

The **OPEN 710 / 810 EMS + DALI** controller offers a groundbreaking range of functions, which were also developed based on practical experience, e.g. the second Ethernet port and the switch minimize your wiring work and costs.



# Light Management Solutions

## The solution components.

Fewer components, less cabling work and easy programming: comprehensive light management using the DALI controller, for example, offers a number of advantages. The matched DEOS AG solution components can be integrated into individual rooms as well as in higher-level technical building management systems.

You can manage the entire light in one room, one zone or a building section with only one gateway – the OPEN DALI controller.

### 1 OPEN DALI controller

- Communicates via BACNet/IP or MS/TP
- 4 DALI interfaces with up to 256 addresses
- Design according to IEC 62386
- Robust CAN bus for IO module communication
- Up to 32 IO modules can be connected
- Supports up to 512 physical data points
- Two Ethernet ports for simplified cabling (daisy chain)

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### 2 OPEN IO modules

- CAN bus communication with up to 1 Mbit/s between IO modules and the DALI controller
- IO modules feature LED status displays
- Available with switch/pushbutton for convenient manual operation
- According to EN ISO 16484-2:2003 and VDI 3814
- Digital output modules are available with transistor or relay output
- Includes self-check function
- Installed on DIN mounting rail or 35-mm mounting rail for control panel installation

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### DEOS AG corporate headquarters, Rheine

We also completely integrated the DEOS AG light management system into the room solution of our corporate headquarters.

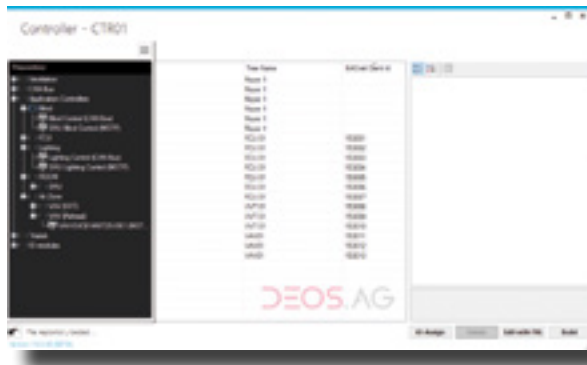
You can find other impressive references at [www.deos-ag.com](http://www.deos-ag.com)

# Light Management Solutions

## OPENproject – Engineering made easy.

Our objective is to save DEOS AG system partners time-consuming routine work, thus allowing you to save valuable programming time and costs. The new **OPENproject** configuration and programming tool helps you achieve this.

**OPENproject** provides you with comprehensive options for the fast configuration and automatic programming of the OPEN EMS for all functional modules in the building. For example, you can control the room temperature, ventilation and humidity. You also have a room control for controlling the lighting, blinds and sockets. You can comprehensively plan and implement everything with **OPENproject**.



**OPENproject** enables end-to-end object-oriented programming based on **BACnet** and currently includes the applications:

- Ventilation systems, rooftop units
- VAV and FCU systems
- Lighting (Light Management Solutions)
- Energy monitoring and
- Energy optimization through calculation objects

Using **OPENview ControlPanel** or a standard browser, you can visualize the application automatically created by **OPENproject** during runtime.

Changes made to the configuration for the rooms and zones are performed within seconds for the entire building.



**OPENproject** automatically creates the controller program. All controllers throughout the entire building are programmed in the same step. This saves valuable time and increases the programming quality. The overall solution also offers additional functions:

- Cloning function – for fast global parameterization
- Graphic around-the-clock trend history
- BACnet trend objects preassembled in the controller
- BACnet scheduler functions and calculation objects
- BACnet DataCenter – the DEOS AG BACnet browser
- Graphic adjustments and configurations via checkboxes

# Comprehensive Light Management

## DEOS.AG

DEOS AG is a technology leader and innovator for building automation. We have been developing and distributing our own products and solutions for nearly 50 years. Our vision is to strike the perfect balance between intelligent and comprehensive **D**igital **E**nergy **O**ptimization **S**ystems for building automation, comfort, energy efficiency and cost transparency.

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