

# See shade in a new light

**Inspiring spaces for learning and teaching**

Intelligent solutions for connected and automated shading  
in education buildings



**somfy**<sup>®</sup>





# Intelligently managing daylight

## for increased comfort, well-being and sustainability

Controlling light and heat while preserving natural resources is a fundamental human need. However, the way we live is changing and we now spend around 90% of our time indoors - so how can we ensure we still meet this need?

Whether new build or renovation, considering the effective use of daylight is essential when undertaking a building project in the education sector, whether it is a general learning space or a space that requires specific controls, such as a laboratory. There are primary requirements and challenges to be addressed: and daylight management plays a role in each of them:

- Health, welfare and well-being of occupants; students, teaching staff and visitors
- Energy consumption
- Sustainability
- Connectivity

Through connected and automated dynamic solar shading, you can help satisfy the demanding requirements of a building's energy efficiency and sustainability by optimizing natural light, preserving the full spectrum of daylight and diffusing light, where required.

With dynamic solar shading, Somfy technology is used to automate and control external and/or internal solar shading devices such as screens, blinds and shades via an intelligent building control system.

Combining dynamic shading with the right type of glass also ensures the occupants get the benefits of daylight and a view to improve comfort, well-being and productivity.



# The Human Factor

## daylight for health, well-being and student performance

In a study carried out with students using education buildings across the US, researchers looked at the impact of natural light, ventilation, air quality, acoustics and views from a building. The results were striking; some of the key findings were:

- Visual comfort has a very clear influence on the results of students. This is not only affected by levels of natural light but also the outside view.
- Reflections on screens, black/whiteboards and projection screens have a strong negative influence.
- Direct sunlight shining into the building, particularly on the east and south facing facades calls for dynamic solar shading. Solar shading that is not controllable by the occupants also negatively impacts performance, however this is to a lower extent than when there is no solar shading in place at all.

Taking into account the lifespan of schools, colleges and universities and the number of students using the facilities over this period, it is important to strike a balance between short-term financial interests and the longer-term economic benefits.



# Creating energy efficient, sustainable buildings for learning and teaching

Managing energy consumption and creating greener buildings is now a priority. As average outside temperatures increase, there is a real risk of our buildings overheating.

Managing daylight effectively can play an important role when it comes to the lighting, heating and cooling of our buildings and can save up to 15-20% of a building's total energy consumption.

Satisfying the first step of the Trias Energetica, dynamic solar shading can drastically reduce the need for active cooling and, through the optimization of daylight, also impacts on the use of artificial light required.

The EPBD (Energy Performance of Buildings Directive) recommends dynamic solar shading as an energy efficient solution.

Creating a better indoor climate for building occupants not only makes their experience more comfortable and productive, it can contribute to reducing operating expenses.

Greener, more sustainable buildings also contribute to a positive image and the benefits this can bring, such as enhanced staff and student attraction.

## Connected Buildings

Connecting buildings and installations to the Internet of Things (IoT) makes them smarter and more future-proof. IP devices and sensors collect large amounts of data that can be analysed and used, for example, to make buildings more energy efficient.

There are many advantages; such as being able to predict maintenance and repair intervals and allowing remote adjustments to be made, when needed.

- 30%** of the world's energy is used by buildings; and
- 20%** of global CO<sub>2</sub> emissions are produced by buildings.

The EU Climate and Energy Package, also known as the 20-20-20 targets for 2020 consists of three goals:

- 20%** Reduction in energy consumption
- 20%** Reduction in CO<sub>2</sub> emissions compared to 1990
- Of energy to come from renewable sources.

In Europe, 40% of the total primary energy used is in buildings

Up to two thirds of the energy consumption in buildings is used by heating and cooling

Up to 35% of electricity costs result from the use of artificial light.

# Why choose Somfy as your partner?

Education buildings often have distinct requirements and unique challenges.

We work in close collaboration with designers, contractors and facility managers, together with our industry partners to deliver a solution that works for your project.

We provide the complete solution for dynamic solar shading; from the development, design and manufacture of motors and intelligent building controls; through to installation, commissioning and maintenance. Our locally based expert teams can advise and support your project from the outset, from design and specification, to ensuring your solution stays optimized for your future needs.

By working together in this way, the final solution fits the building and user needs. Occupants have the freedom to easily manage the levels of natural light in their environment; minimising glare, modulating heat and ensuring comfort and privacy. And by limiting the use of artificial lighting, heating and air conditioning, you're optimizing energy efficiency, and thus sustainability.



**THE BUILDING USER**  
Comfort & well-being of the building users



**THE BUILDING**  
Efficient energy management



**THE ENVIRONMENT**  
Sustainability – reduced CO<sub>2</sub> emissions



## About Somfy

Somfy's leading smart management solutions for homes and buildings have been improving people's daily lives for over 50 years. Developed with comfort, ease of use, security and sustainability in mind, our innovations automate and connect rolling shutters, curtains and blinds, gates and garage doors, lighting and heating, alarms systems and more. We are committed to creating useful solutions that are accessible to all, designed for today and beyond.

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