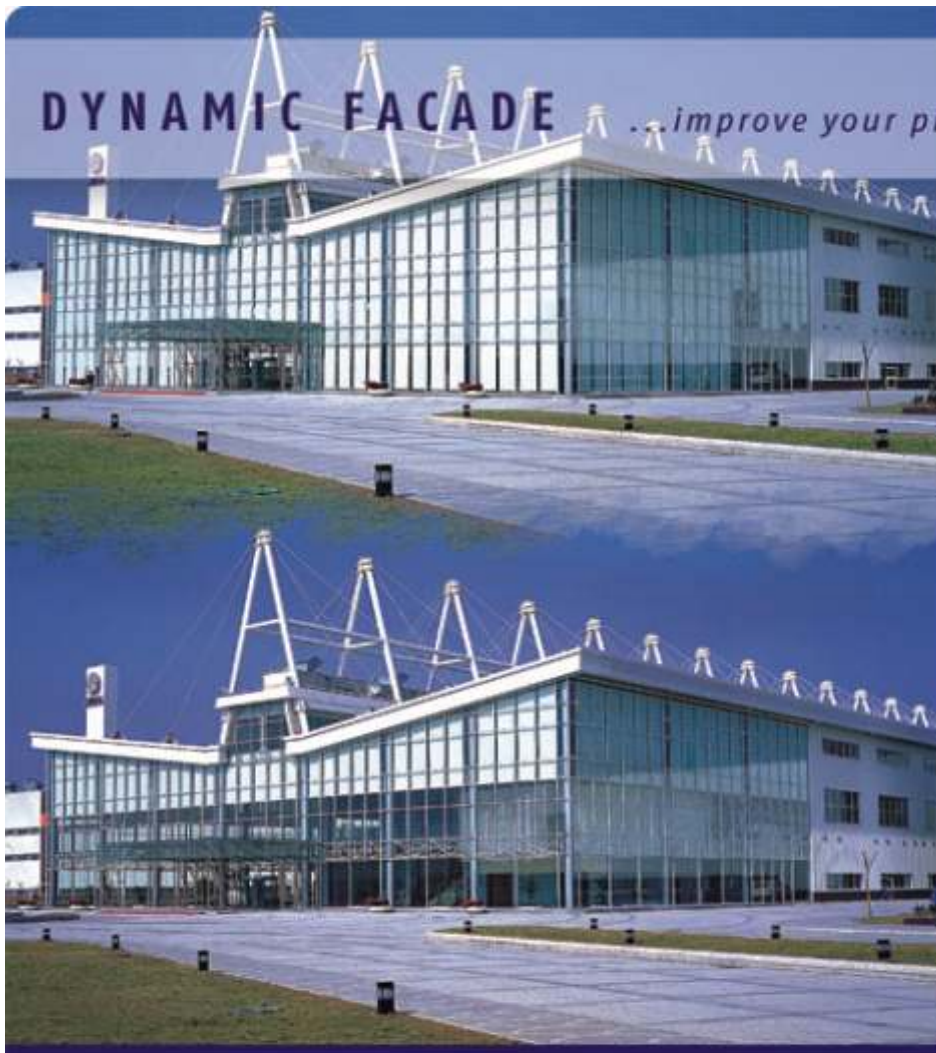


MANAGEMENT OF DYNAMIC FACADES ...for environmental comfort.



Do you know that a simple design solution can increase the value of your client's assets?

somfy[®]



DYNAMIC FACADE

...improve your project's performance.

Seeking better return on investment, real-estate consumers need to see that their money is being well invested. With a simple solution a building can be turned into a complete real-estate success by making the buyer/tenant view their investment being returned over the long run.

SOMFY solutions not only give the architect a chance to enhance his creativity by mastering the sun and air, but also allow the building to better use the environmental resources of the site and better integrate the exterior and the interior of the building, bringing a comfortable and productive environment to the occupants.

The environmental problem demands a multi-faceted technical response.

This comprises a combination of solutions which, between them, generate synergistic effects which are all the more positive, because they are integrated at the earliest stages of the design process.

Facade: an investment already made, which can be optimized.

The main objective of the facade is to interact with the external environment, enabling the positive aspects to enter the building, and at the same time blocking the entrance of non-desirable elements found outside.

A better designed facade can reduce the investment in other building elements and turn it into a valuable asset.

A legal obligation

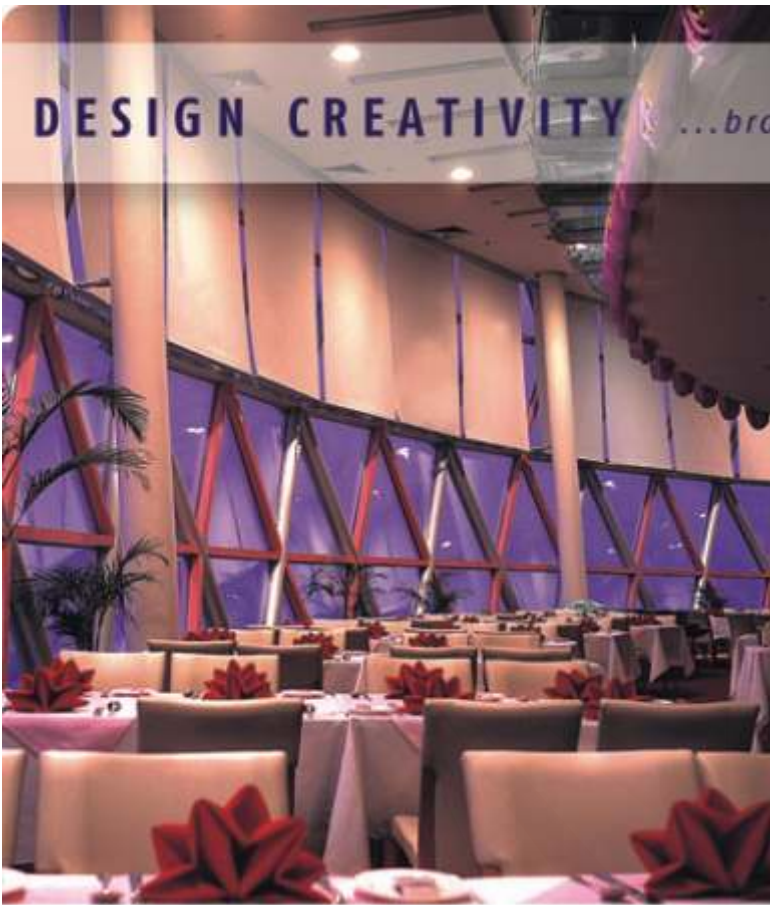
Project managers and contractors are aware that sustainable development is becoming an obligation. Countries such as Germany (EnEV), France (RT2000), Switzerland (Minergie), Scandinavia and the US (Green Building Council) have already introduced standards, constraints and financial assistance. Labels such as LEED® in the US are the subject of increasingly rich exchanges of experience. Nowadays, invitations to tender and specifications both in the private and public sectors reflect this aspect on a routine basis. Moreover, this is an irrefutable competitive and economic advantage.

By the very nature of its solutions, SOMFY is playing its part in the implementation of ecologically sound design. Motorization and automated control of solar shading products and windows for natural ventilation are playing a direct and quantifiable role in the process.

LEED is a registered trademark of the US Green Building Council

DESIGN CREATIVITY

...broadened by mastering the sun and air.



The automatic control of solar protection devices and operable windows enables the use of large glass surfaces, regardless of the building's geographical location, its environment, its usage and its size. Every project can be unique. Daylighting control and natural ventilation are two fundamental factors governing the environmental efficiency of a building, in terms of controlling energy as well as improving working conditions. A pleasant visual appearance, combined with the ability to see outside and to breath fresh and/or replenished air are factors, which have a direct bearing on occupant well-being and productivity. Moreover, end users, company medical departments and labor unions are becoming increasingly sensitive to the positive quality of working conditions in commercial building environments.

Daylighting

Improve Visual Comfort
Block Direct Glare

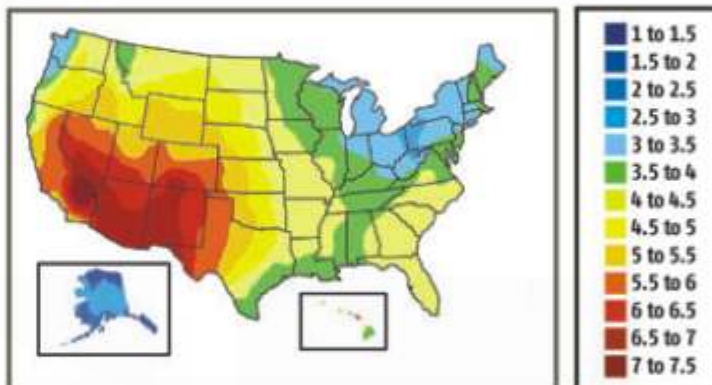
Natural Ventilation
Improve Indoor Air Quality
Reduce Sick Building Syndrome



NATURAL LIGHT CONTROL ...enhance visual comfort.

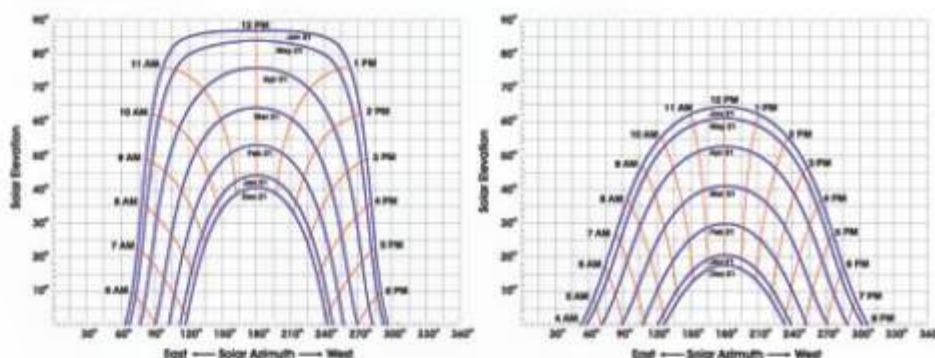
It's easy to overlook the fact that natural light is a necessity for human beings. A recent American survey shows that 8 out of 10 employees suffer from inadequate lighting intensity in their offices and 3 out of 4 would like to be able to control the lighting at their workplace. Many scientific studies have demonstrated the importance of adequate natural light in relation to health, well-being and, in turn, productivity.

Illuminance over 15klux, happening even with overcast sky, causes visual fatigue. Light attenuation is necessary more than 50% of the working time in most areas in North America.



average hours of peak sun per day

Sun path (azimuth and elevation) depends on geographic location: the penetration angle of the sun rays vary not only with time but also with latitude.



Miami (26°N, 80W)

Vancouver (49°N, 123W)

Source: Solar Radiation Monitoring Laboratory, University of Oregon, <http://solardat.uoregon.edu>

Regardless of the geographical location of the building, its orientation, its type of exterior wall (double-skinned for example), motor-driven and automatically controlled internal or external solar protection products provide effective and flexible control of natural light. Somfy sensors automatically control the opening and closing of solar shades in a wide range of positions according to actual time, changes in weather conditions and their orientation towards the sun.

Today the 1/3/10 rule for good lighting is well known:

the difference in luminosity between what is perceived by the eye (a 30 – cone) and the visual task (a sheet of paper for example) should fall within the ratio 1:3 and 1:10 between the perceived luminosity (a 90 – cone) and the luminosity of the surfaces situated within the field of view (a window for example). Without solar protection, this visual comfort is seldom attained during working hours.



without solar protection

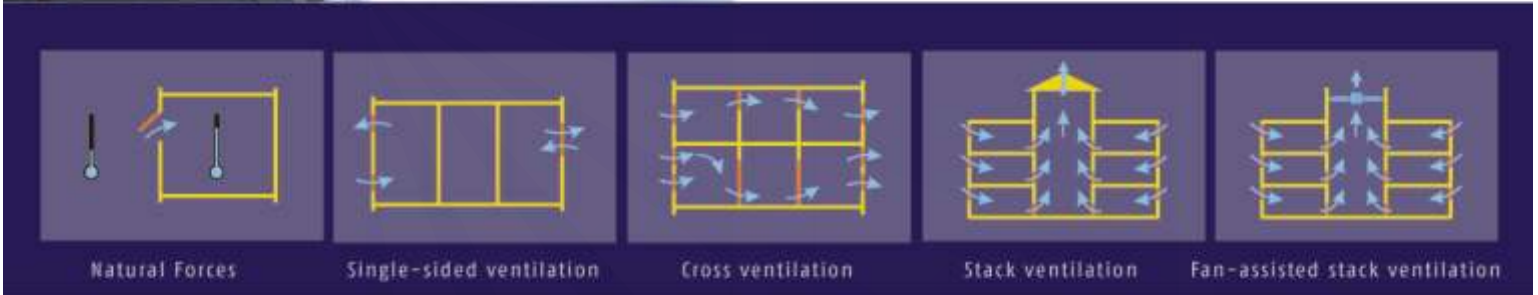


with solar protection

NATURAL VENTILATION

...to create and enhance.

Natural ventilation, as a supplement to mechanical air-conditioning, is a particularly promising avenue of research. Somfy motors for windows (whether accessible or not) and control systems are the solution to a wide variety of problems regarding ventilation, night cooling and air-conditioning. They have the effect of reducing energy consumption as well as the overall size of the HVAC systems, or even replacing them as is the case with some 'green buildings'.



A 1984 study identified a 66-70% reduction in sick building syndrome symptoms with occupants of naturally ventilated office buildings, as compared to occupants of fully mechanically-conditioned buildings with humidification and re-circulation of indoor air.
Finnegan et al (1984)

A 2000 study identified a 1.1% improvement in productivity with every 10% reduction in sick building syndrome complaints, and resulting in a 7% overall productivity benefit associated with natural ventilation.
Wargoeki et al (2000)

A 1988 study identified
 - a 33% reduction in headaches
 - a 28% reduction in reported frequency of colds
 - a 31% reduction in reported circulation problems in naturally ventilated buildings, as compared to air-conditioned office buildings.
 Kroeling et al (1988)

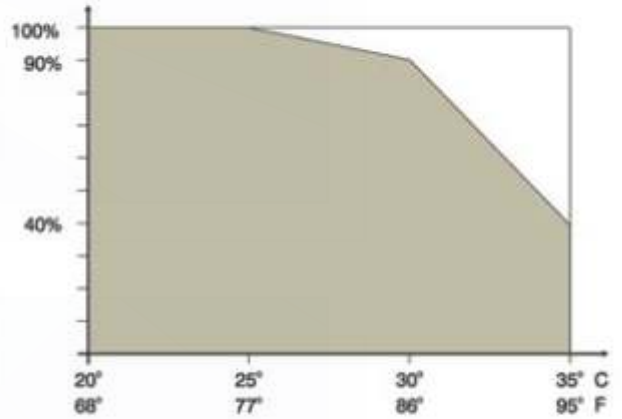
A 2002 study identified a 23.5% reduction in headache symptoms when workers are provided with individually-controlled task air systems supplying outdoor air, as compared to a conventional mixing ventilation system.
 Kaczmarczyk et al (2002)



CLIMATE CONTROL ...efficiency and convenience.



The exterior wall, which includes windows, is the principal point of heat transfer between the inside and the outside of the building. Window coverings can be installed inside or outside the exterior wall, or within the glass structure. When they are automated to control daylighting, they also lower the heat gain and loss through the glass surfaces. Natural ventilation, such as night cooling, can significantly decrease the indoor temperature, without any inconvenience for the occupants, and prevent excessive temperature rise during working hours.

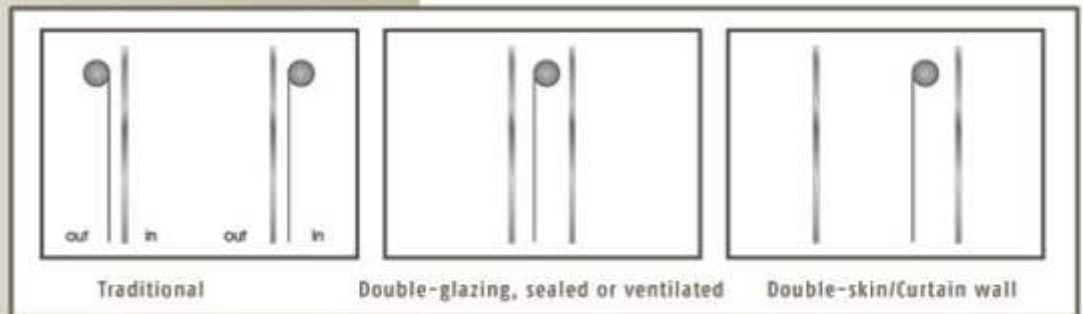


Productivity versus temperature

An increase of 2°F/1°C over 77°F/25°C causes a 2% loss in productivity.

Source: D. Wyon "In creating the workplace"

Tests made in real office buildings show that, depending on climate, the combination of night cooling and automated window coverings can decrease the discomfort time in July by up to 2/3 due to excessive temperature.



MOTORIZATION SOLUTIONS...for long-lasting convenience.



SOMFY is a brand offering a virtually limitless range of solutions. For wood blinds, Venetian blinds, awnings and roller shades, either interior or exterior, SOMFY motors can be adapted to fit all types of solar shading products and tilting windows, regardless of the type of climate, installation conditions or number of products required. Since a motor-driven window covering is protected from rough or clumsy handling, it lasts much longer than a manually operated version, SOMFY solutions enhance the operating life of these products. SOMFY solutions can be effectively applied to any environmental strategy because they take into account the definitive requirements of end users. The wide range of SOMFY motors provides a satisfactory technical solution for virtually any situation.

Motorization for solar protection devices

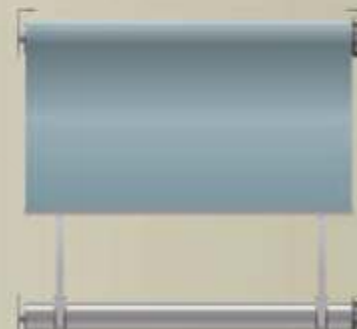
Today, with over 20,000 customers around the world and more than 30 million motors in service, SOMFY is the world leader in the motorization of solar protection products. The company offers advanced technologies and unsurpassed technical know-how to optimize the use and operating life of these motors.



Awnings



Rolling Shutters



Fabric Tension Systems



Solar Shades



Horizontal Blinds



Sheer Horizontal Shades



Cell Shades

MOTORIZATION SOLUTIONS *...for long-lasting convenience.*



Motorization for windows, louvers, skylights

SOMFY produces a range of motors for the service sector, pneumatically or electrically operated actuators and chain driven actuators.



Top-opening window



Bottom-opening window



Roof window

CONTROL SOLUTIONS ...for exceptional development potential.

SOMFY automatic control devices are closely integrated with new developments in environmental design. They bring the benefits of convenience, flexibility and exceptional development potential, while providing access to economic and controlled management of the operating costs of a building. SOMFY solutions can be applied in all buildings, regardless of their height, shape or size of the structure. They are among the most competitively priced on the market, in terms of efficiency as well as their simplicity and reliability.



Radio Technology SOMFY™ simplicity and reliability

Since it radically eliminates the integration and installation problems posed by cable-based solutions (no wiring at all with battery-operated motors), the popularity of the radio technology is increasing dramatically. Radio Technology SOMFY™ is:

- universal: one remote control can be used to control a number of window coverings and windows, either collectively or individually.
- powerful in terms of range and reliability.
- secure: narrow bandwidth, unbreakable code.
- upgradeable: It can be adapted to suit changes in the configuration of the installations.

Radio Technology SOMFY™ can be adapted for use in any project, from new construction to renovation work or interior design.

IGC System

Easy-to-use Sun Control, Wind Control, Sun and Wind Control, can operate window coverings and windows in one group or multiple sub-groups. Wall switches and infrared remote control are available push-button override options.



Multi Link

Zone and local control, and a RS232 interface with a building Management System



CONTROL SOLUTIONS ...for convenience and flexibility.

animeo IB+

A Complete Management System of Dynamic Facades

A Building Controller, programmed by a PC, receives climatic data from a weather station and control strategy selected by the Facility Manager: user comfort, energy savings, performance (combination of user comfort and energy savings depending on occupancy hours). A suntracking function positions the shades to block direct glare while maximizing the incoming daylight. The PC-based software enables programming, controlling, and monitoring the installation, either on site or remotely.

Wall switches, infrared remote control, radio remote control using Radio Technology SOMFY™ are available options for local control.

Versatility, performance, ease of installation and operation make animeo IB+ the perfect management system for all commercial building projects.



LonWorks CONTROLS

SOMFY LonWorks controls are designed to control motorized window coverings and windows, one by one or in groups, from a LonWorks-based Building Management System



LonWorks is a registered trademark of Echelon Corp., United States

EXTENDED WARRANTY...SOMFY products are guaranteed.

SOMFY products are guaranteed for five years and are subjected to numerous endurance tests in order to simulate a product service life extending beyond the ten-year guarantee. 110% of the products are tested on the assembly lines. SOMFY has been granted over 600 licenses in 40 countries while meeting the criteria ISO9001 certification. Other forms of guarantee are the company's 35 years of experience in the building industry and the acknowledged skills and expertise of the SOMFY distribution and support teams. They insure the most practical solutions are proposed all the time, solutions which are carefully adapted to the project and to the construction site.

WORLD CLASS INDUSTRIAL AND RESEARCH TOOL

SOMFY has the capacity to produce more than 32,000 motors a day. The company's 7 assembly plants apply the principles of operational excellence as a matter of routine. They are able to make use of a logistics network of 40 warehouses, ensuring that it is possible to deliver the company's products to any building site, anywhere in the world, on very short notice and always on time. Every year the research center in Cluses (France) and its unique test laboratory evaluates over 6,000 products under actual conditions of service. The SOMFY development centers in France, Germany, Japan and the United States are constantly striving to improve the technologies and to create new products that are environmentally friendly.

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